

The Challenge of Employment in India

An Informal Economy Perspective

Volume I - Main Report



सत्यमेव जयते

NATIONAL COMMISSION FOR ENTERPRISES IN THE UNORGANISED SECTOR

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April, 2009

Previous reports of National Commission for Enterprises in the Unorganised Sector

1. Social Security for Unorganised Workers, May 2006
2. Comprehensive Legislation for Minimum Conditions of Work and Social Security for Unorganised Workers, July 2007
3. Conditions of Work and Promotion of Livelihood in the Unorganised Sector, August 2007
4. Financing of Enterprises in the Unorganised Sector & Creation of a National Fund for the Unorganised Sector (NAFUS), November 2007
5. Report on Definitional and Statistical Issues relating to Informal Economy, November 2008
6. A Special Programme for Marginal and Small Farmers, December 2008
7. Growth Pole programme for Unorganised Sector Enterprise Development, April 2009
8. Skill Formation and Employment Assurance in the Unorganised Sector, April 2009
9. A Report on Technology Upgradation for Enterprises in the Unorganised Sector, April 2009

Previous Working Papers of the National Commission for Enterprises in the Unorganised Sector

1. Measure of Labour Force Participation and Utilization, January 2008
2. Contribution of the Unorganised Sector to GDP Report of the Sub Committee of a NCEUS Task Force, March 2008
3. Definitional and Statistical Issues Relating to Workers in Informal Employment, January 2009.

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“I will give you a talisman. Whenever you are in doubt, or when the self becomes too much with you, apply the following test. Recall the face of the poorest and the weakest man [woman] whom you may have seen, and ask yourself, if the step you contemplate is going to be of any use to him [her]. Will he [she] gain anything by it? Will it restore him [her] to a control over his [her] own life and destiny? In other words, will it lead to swaraj [freedom] for the hungry and spiritually starving millions?

Then you will find your doubts and your self melt away.”

One of the last notes left by Mahatma Gandhi in 1948, expressing his deepest social thought.

Source: Mahatma Gandhi [*Last Phase*, Vol.II (1958), p.65]

“The service of India means, the service of the millions who suffer. It means the ending of poverty and ignorance and poverty and disease and inequality of opportunity. The ambition of the greatest man of our generation has been to wipe every tear from every eye. That may be beyond us, but as long as there are tears and suffering, so long our work will not be over.”

Jawaharlal Nehru

Speech in the Constituent Assembly of India, on the eve of India's Independence,
August 14th, 1947.



Dr. ARJUN K. SENGUPTA
Chairman

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D.O.No.AKS/NCEUS/2009/
Dated the 30th April, 2009

Dear *Prime Minister,*

We have great pleasure in submitting to you our final report titled '**The Challenge of Employment in India: An Informal Economy Perspective**'. This report takes an aggregative perspective of what we have called the central problem of the challenge of employment namely, deficit in its quantity and quality.

While taking such a view we have attempted an alternative measure of employment and unemployment in India that takes into account the intensity of work performed by a person. We have also reported the findings of our estimates based on labour force projections not only for the whole country but for the States as well for two time points, namely 2012 (end year of 11th Plan) and 2017 (end year of 12th Plan). According to the Commission's estimate the total Indian labour force is likely to be around 502 million by 2012 and 551 million by 2017 – a number that is greater than the country's population of 548 million in 1971.

As against this supply of labour force the employment creation will be around 488 million if the economy grows at 9 per cent per annum resulting in an unemployment rate of only 2.5 per cent in 2012. However, if the economy grows only around 5 per cent employment creation will be only around 465 million resulting in an unemployment rate of a little over 7 per cent. By 2017, as against a labour supply of 551 million, employment creation will match this supply resulting in hardly any unemployment as per our measure of labour force if growth rate was 9 per cent. However, if the economy grows only around 5 per cent, employment generation will be only around 493 million resulting in an unemployment rate of little more than 10 per cent.

If current trends continue, the comparative deficit in education and skills in regions of the country which will contribute to a major part of the growth of the labour force will be even more glaring in the future than it is today.

Despite these varying rates of employment/unemployment, the share of informal workers is however likely to continue to be around 92-93 per cent in 2017. Of these informal workers, 86-87 per cent will be working in the informal sector and the remaining 6 per cent in the formal sector.

The Commission has also examined the issue of labour market reforms. Empirical findings suggest that the so called labour market inflexibility had hardly been a factor in determining either the growth of employment or labour intensity in organized manufacturing. Despite these findings, and taking into account the *ex ante* concerns of investors, we have recommended that prior government permission for retrenchment need not be insisted upon provided the employers agree to an enhancement of the compensation package and contribution to an unemployment insurance scheme. In the view of the Commission the issue of labour reforms can be resolved effectively if we meet a number of other concerns such as (a) the need to adopt a national labour code that will greatly simplify the multiplicity and overlapping nature of existing labour legislations, (b) effective enforcement of conditions of work and social security provisions for contract workers, and (c) improvement in labour administration.

From an informal economy perspective the challenge of employment has to be addressed to two groups in the labour force: First, the wage workers who are mostly casual labourers for whom there is need for a public employment programme both in rural and urban areas. Since we already have a National Rural Employment Guarantee Programme in rural areas, the Commission has recommended a series of measures for its strengthening as well as a possible extension to urban areas. The other group consists of self-employed workers consisting of those working on their own and those with hired labour of less than ten. Here we have suggested a series of measures for accessing credit, technology, marketing and raw materials to improve their productivity and thereby earnings. Given the large number of such micro enterprises clustered in different parts of India we have advocated a strategy for promoting Growth Poles in geographically contiguous areas having more than one cluster.

As we have recommended earlier we have emphasized the critical need for creating a social floor for this vast segment of unprotected workers in the form of (a) a national minimum social security; (b) a national minimum wage and (c) laying down minimum conditions of work.

We are aware that the government has taken significant steps arising out of recommendations in our earlier reports. We hope that further steps will be taken to ensure decent employment conditions and social security to the 92 per cent of our workers so that these will enhance the goal of inclusive

development resulting in a life of dignity and security to the working poor of our country.

We take this opportunity to thank you for giving us an opportunity to work in this Commission as well as extending its term to enable us to complete the work.

With kind regards,

Yours sincerely,



(Arjun Sengupta)



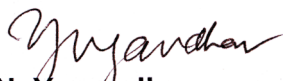
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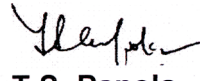
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PREFACE

This is the final report of the National Commission for Enterprises in the Unorganised Sector, which was set up by the Government of India on 20th September 2004, to "review the status of unorganized/informal sector in India including the nature of enterprises, their size, spread and scope, and magnitude of employment," This was the first step taken towards fulfilling the commitment of the new UPA government to ensure "the welfare and well-being of all workers, particularly those in the unorganized sector, who constitute more than 93% of our workforce".

2. During the four and a half year of its existence, the Commission examined in detail all the literature and statistical evidence that exists on this sector, held numerous consultations with different stake-holders, such as government officials and policy makers at the Centre and in the States, trade unions and associations of workers representatives, civil society organizations, academics and experts. The Commission has already produced nine reports in addition to submitting a number of proposals on selected issues such as global economic crisis and the informal economy, SEZs and National policy on Street Vendors apart from a number of working papers. The whole set of reports of the Commission and papers are available on the Ministry of MSME's website. We hope all of them will be examined carefully by scholars and interested individuals and policy-makers in the coming future.

3. Many of the recommendations of the Commission have already been acted upon by the Government. A number of others are in advanced stage of examination by the policy makers. The remaining recommendations, the Commission hopes will be examined by the new government. The Commission is of course very grateful to the UPA government, especially to the Prime Minister, Dr. Manmohan Singh, who not only set up this Commission and gave it all the facilities to carry out its exercises but also participated in collective examination of its recommendations at different stages. All along, the Prime Minister himself took active interest in the

work of this Commission, which would not have been completed without his advice and encouragement. The Prime Minister, who was primarily responsible for bringing about a paradigm shift of Indian economic policies responsible for India's high rate of growth of the recent period, has been very conscious of the need for transforming the unorganised sector to bring about a proper inclusive development. All the Commission's Members individually or collectively had many occasions of discussing these issues with him personally. They all wish to record their appreciation of the Prime Minister for his support of the Commission's work.

4. This final report on "The Challenge of Employment in India : An Informal Economy Perspective" is now presented as an overarching report based on all the earlier work of the Commission, to provide a perspective and strategy for expanding employment in India. The Commission is completing its term on 30th April 2009, with a sense of satisfaction that it has been able to work out a most comprehensive report on the unorganized sector in India, based on a meticulous examination of the unit level statistical evidence and survey of all the literature. Chapters 2, 4, 6 and 15 are the most crucial Chapters of this rather voluminous report, covering comprehensively all the issues related to the unorganized sector.

5. In the following paragraphs of this preface, we present what may be considered as the main focus of our argument. The Indian economy has been on a sustained path for economic growth since the early 90s' when economic reforms were introduced in this country. We concentrated on the records of the 10 years from 1993-94 to 2004-05, the period for which we have details of statistical evidence collected by the National Sample Survey, and also the CSO and the DGET. On the basis of these examinations, we recorded in our first Report on Conditions of Work and Promotion of Livelihoods in the Unorganized Sector, that although in these ten years India experienced an impressive rate of growth of GDP, the benefits seem to have bypassed the overwhelming majority of India's population. Though the population suffering from extreme poverty and living below the so called official poverty line (approximately Rs. 12 per day per capita consumption in 2004-05) came down significantly from 1993-94 onwards, they seem to have moved only

marginally above the poverty line and about 77% of them were stuck below the expenditure on average of Rs. 20/- per day per capita. We described these people as Poor and Vulnerable, as against the remaining 23% of Middle Class and Higher Income groups who seemed to have captured most of the benefits of the high income growth. We analysed the characteristics of this poor and vulnerable group, which contains about 88% of SC/ST, 80% of OBCs and 85% of the Muslim population of this country. Most of the population of this group were also either illiterate or without even primary education, and also suffer from malnutrition. These groups emerge as a sort of a coalition of socially discriminated, educationally deprived and economically destitutes, whereas less than one fourth of our population only was enjoying a high rate of growth or their purchasing power. We analysed their gender composition and human development and tried to devise programmes which the government might adopt to improve their status.

6. One very important characteristic of this group of the Poor and Vulnerable section of the people is that, they had very little expansion of their employment and enhancement in their earning capacity. Clearly, any programme for a sustained improvement of the well-being of these people will have to be centred around how to expand their employment. In this final report we have concentrated on this question and examined the status of employment of these people, and how to increase their employment and earning power.

7. We began by recording that the rate of growth of employment during the decade of 1993-1994 and 2004-05 declined significantly to 1.85 percent from the previous ten years of 2.03 percent for 1983 to 1993-94. There has been a similar decline in the growth rate of wages and average earnings of the workers between 1993-94 and 2004-05 compared to the previous decade. We have examined these numbers in terms of different definitions of employment and their estimates, all of which confirm these general trends, and that these years of high rate of economic growth were associated with a decline in the growth of employment and average earnings. Besides, this decline in the quantitative growth of employment, we analysed the changes in this quality of employment, or the conditions of decent

work, in terms of formal and informal employment. Informal workers are those who do not have any job security, income security or social security and are therefore extremely vulnerable to exogenous shocks and who accept employment and describe that they are employed as the opportunity cost of that was not only unemployment but in most cases starvation. There are informal workers in organised sector as well as in unorganized sector where enterprises are legally unprotected and worked with less than ten workers.

8. The results of our analysis have been striking. The overwhelming portion of workers of the poor and vulnerable groups (between 94% and 98%) are informal workers, while they constitute much smaller proportion of the work force in the middle class or higher income groups. The growth rate of employment also was much less among the Poor and Vulnerable groups compared to the Middle and Higher income groups. In other words, both in terms of quantity and quality of employment the poor and vulnerable groups had been lagging far behind the others during the period of rapid economic growth.

9. This disconnect between income growth and employment growth in India becomes even more striking when we examine the records of the organized manufacturing sector. During the ten years of high rate of growth between 1993 and 2004, GDP was associated with an impressive growth of the value added in the manufacturing sector, but there was very little growth of formal employment in this sector during this period. There has been of course some growth of employment during this period, but that seemed to be almost entirely of informal employment of workers of casual and contract nature and informal regular low wage workers.

10. We do not have the statistics to examine the records of quantity and quality of employment during the period of 2004-05 and 2008-09, when the Indian economy continued to grow at a high rate. The limited evidence we have does not indicate much change in the picture. Though the Commission has analysed the projected employment in the next ten years in terms of the growth of the different sectors and their employment elasticity, it appears that without any change of our

basic policies we shall have to wait till about 2017 for a near full employment situation, only if our economy grows at 9% on the average. However, the share of informal workers in the economy is not likely to decline, hence the problems of quality of employment will continue to persist.

11. The implications of all these are very clear. We must have very targeted policies for expanding employment, especially in the unorganized sector, which can not be brought up simply by economic growth. Market forces alone may produce a high rate of expansion of India's GDP but for expanding employment, a well designed set of policies and programmes have to be adopted and implemented. They have to focus especially towards the unorganized sector which would continue to receive most of the increase in labour force. This report of the Commission goes into the details of such possible programmes in different chapters. Some programmes such as the National Rural Employment Guarantee Scheme have to be implemented as entitlement of workers with proper social auditing and financial provisioning. They need to be extended to the urban areas as well. Some programmes have to concentrate on social security to provide a minimum floor of quality of employment. Others will have to be built upon skill development to make the workers productive and employable. Special programmes have to be adopted for the small and marginal farmers who constitute 84% of our agriculture households and a new institutional framework has to be built up such as the National Fund for the Unorganised Sector (NAFUS), comparable to the NABARD for agriculture, to provide finance, marketing and technological facilities. To this may be added building up Growth Poles of clusters of small and tiny units and which must be complemented by the legal empowerment of street vendors, own account workers and slum dwellers.

12. The most important conclusion that follows from the findings of the Commission is that all these efforts to improve the quantity and quality of employment in the unorganized sector would require a new approach to economic planning in India. The objective of our planning process from now on should be 'maximizing employment', in terms of quantity and quality and social development.

Programmes have to be worked out with the details of demand and supply analysis of employment in different occupations, and in particular the process of their implementation has to seek collaboration of the civil society and panchayati raj institutions. There has to be full collaboration between the States and the Centre, complementing each other. The financial and investment implications of these programmes have to be worked out and the targeted growth rate including the tax rates and fiscal provisioning, required to implement these programmes will have to be derived from these exercises. The GDP growth will remain important as without that resources can not be generated and mobilized for an effective full employment programme. But such growth will be a derived result from the overall objective of maximizing employment and social development. In a country like India that would mean mostly maximizing employment in terms of quantity and quality in the unorganised sector.

13. The Commission looks forward to the discussion and dissemination of this and other reports and the actions of the government to implement the recommendations thereof.

Arjun Sengupta

Chairman

National Commission for Enterprises in the Unorganised Sector

New Delhi

30th April, 2009

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Shri Joginder Kumar, President, Federation of Tiny & Small Scale Industries of India (FTSSI), Ludhiana.
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Dr A. V. Sardesai, former Executive Director, Reserve Bank of India.
Dr. N.S. Sastry, Former Director General, Central Statistical Organisation, New Delhi.
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1

Introduction

1.1 India is perhaps the first country to set up, at the national level, a commission to study the problems and challenges being faced by what in India is called the unorganised economy - or the informal economy as it is usually referred to internationally - and recommend measures to the government to address them. The political compulsion for such a remarkable initiative was thrown up by India's success in achieving and sustaining a high economic growth since the mid-eighties but one that did not adequately address the livelihood security issue of a majority of its citizens. The euphoria of a 'shining India' created during the 2004 general elections turned out to be a short-lived one when the vast underbelly of a 'suffering India' voted decisively in favour of a programme that focused on the livelihood issues of the common people, the *aam aadmi* as it is popularly referred to.

1.2 This programme known as the Common Minimum Programme of the United Progressive Alliance, which formed the government at the national level, stated that

"The UPA government is firmly committed to ensure the welfare and well-being of all workers, particularly those in the unorganised sector who constitute 93 per cent of our workforce. Social security, health insurance and other schemes for such workers like weavers, handloom workers, fishermen and fisherwomen, toddy tappers, leather workers,

plantation labour, beedi workers, etc. will be expanded."

"Enhance the welfare and wellbeing of farmers, farm labour and workers, particularly those in the unorganised sector and assure a secure future for their families in every respect."

"The UPA administration will ensure the fullest implementation of minimum wage laws for farm labour. Comprehensive protective legislation will be enacted for all agricultural workers."

1.3 As part of fulfilling this commitment the National Commission for Enterprises in the Unorganised Sector (NCEUS) was set-up by the Government vide Resolution No:5(2)/2004-ICC dated 20th September, 2004 under the chairmanship of Dr. Arjun Sengupta as an advisory body to recommend measures considered necessary for enhancing the competitiveness of the unorganised sector in the emerging global environment and generation of large scale employment opportunities on a sustainable basis. The terms of reference given to the Commission are as follows:

- i. Review of the status of unorganized/informal sector in India including the nature of enterprises, their size, spread and scope, and magnitude of employment;
- ii. Identify constraints faced by small enterprises with regard to freedom of carrying out the enterprise, access to raw

- materials, finance, skills, entrepreneurship development, infrastructure, technology and markets and suggest measures to provide institutional support and linkages to facilitate easy access to them;
- iii. Suggest the legal and policy environment that should govern the informal/unorganized sector for growth, employment, exports and promotion;
- iv. Examine the range of existing programmes that relate to employment generation in the informal/unorganized sector and suggest improvement for their redesign;
- v. Identify innovative legal and financing instruments to promote the growth of the informal sector;
- vi. Review the existing arrangements for estimating employment and unemployment in the informal sector, and examine why the rate of growth in employment has stagnated in the 1990s;
- vii. Suggest elements of an employment strategy focusing on the informal sector;
- viii. Review Indian labour laws, consistent with labour rights, and with the requirements of expanding growth of industry and services, particularly in the informal sector, and improving productivity and competitiveness; and
- ix. Review the social security system available for labour in the informal sector, and make recommendations for expanding their coverage.

1.4 The Composition of the Commission and its Advisory Board are given in Annex 1.1 and 1.2.

Wide ranging consultations

1.5 The Commission sought to address each of the Terms of Reference in a systematic manner through a process of building up as broad-based a consultation as possible especially among the stake holders. The Commission has been aware of the wide-ranging nature of the Terms of Reference and the formidable challenges in not only studying them but also to come up with clearly formulated recommendations for policy. In addressing these Terms of Reference the Commission, after initial deliberations, constituted Task Forces (or Technical

Expert Groups on certain specific themes) to provide a forum for detailed deliberation (see list given in Annex 1.3). The deliberations were backed by specially commissioned studies and papers prepared by experts. In addition, detailed computations and analysis of statistical data were carried out within the Commission. Wherever necessary, discussions and interactions with central and selected state governments, academia, civil society organizations, workers' organizations, and industry associations were held. Subsequently regional and national consultations were held for discussing the preliminary reports and papers. Discussions were also held with selected state governments, state level academia, civil society and workers organisations. Through such a process of structured interaction, the Commission was in a position to elicit a large number of views and recommendations and build as much a consensus as feasible.

1.6 It goes without saying that given the vast mandate of the Commission and the comprehensiveness with which it has tried to examine various issues, it has not been possible for us to examine all the relevant issues with the same degree of rigour. Nor have we been able to do adequate justice to the heterogeneity of this sector. Nevertheless, we have tried to set out an approach and a framework within which we have examined the differing constraints and growth opportunities of the various segments which constitute the informal economy. In the final analysis, the Commission alone is responsible for the views expressed and recommendations made in its various reports.

Past Reports

1.7 *Report on Definitional and Statistical Issues Relating to the Informal Economy* (NCEUS 2008a): One of the first tasks of the Commission, and a challenging one at that, was to define its universe of study. When the Commission began its work, there was no precise definition of the informal/unorganised sector not to speak of the informal employment. Through a series of consultations and deliberations, the Commission defined the unorganised sector and unorganised employment. It also decided, by examining the international practices, to use the terms 'unorganised' and 'organised' interchangeably with 'informal' and 'formal'. The definitions adopted by

the Commission were subsequently used in all its statistical computations and reports. A detailed report titled *Report on Definitional and Statistical Issues Relating to the Informal Economy* was then submitted in 2008 containing the results of these new computations on the informal sector, informal employment, GDP emanating from the informal sector and the characteristics of informal sector enterprises and workers. A set of recommendations were also made that will, if adopted by the statistical system, make available highly useful data for policy formulation and implementation with regard to addressing the problems and challenges facing the informal economy.

1.8 The core of the Commission's recommendation relating to the definition of the informal economy is the following:

- ‘ *Informal Sector*: “The unorganized sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers”.
- ‘ *Informal worker/employment*: “Unorganized workers consist of those working in the unorganized sector or households, excluding regular workers with social security benefits provided by the employers and the workers in the formal sector without any employment and social security benefits provided by the employers”.
- ‘ *Informal economy*: The informal sector and its workers plus the informal workers in the formal sector constitute the informal economy.

1.9 *Report on Social Security for Unorganised Workers* (NCEUS 2006b) This report on social security was submitted in May, 2006. While deliberating on the issue of social security for informal workers, the Commission recommended a universal social security for all workers and suggested a social security Act as a right. The NCEUS submitted a bill in this regard which was deliberated upon by the media, organisations of informal/

unorganised workers, in the Government and finally by the Parliament where a bill was introduced. The final result was an Unorganised Workers Social Security Act 2008 that incorporates a number of, if not all, recommendations of this Commission.

1.10 *Report on Conditions of Work and Promotion of Livelihoods in the Unorganised Sector* (NCEUS 2007a): This was submitted in August, 2007 as an overarching report by the Commission, that in fact set the agenda for working out a comprehensive strategy for transforming the informal sector into efficient units of production and services while ensuring decent conditions of employment for the informal workers with income and social security. The report analyzed the conditions of work of farmers, wage workers, women workers, home based workers, as well as the regulations of conditions of work in India of the unorganised sector. In order to protect and promote the livelihood of the unorganised workers in India, the Commission in the report has also suggested a “13 Point Action Programme” under four separate packages that should get “overriding and immediate priority”, for the unorganised sector workers. This report, attracted wide attention and publicity in the official/non-official circles and the media and has become a subject of debate in and outside the Parliament. The main recommendations were followed up by the Commission for detailed deliberation and formulation of implementable action plans and the subsequent reports were the products of such an exercise.

1.11 *Reports on Financing of Enterprises in the Unorganised Sector and Creation of a National Fund for Unorganised Sector* (to be called NAFUS)(NCEUS 2007b): These two reports, the second arising out of the first, were combined into one document and presented to the Government in November, 2007. The first report on financing examines in detail the status of financing to this sector and deals with the deficiencies in institutional infrastructure, constraints in financing this sector and provides a set of comprehensive recommendations. The NAFUS proposed by the Commission is envisaged as a development agency with statutory backing and funded by the Central Government and Financial Institutions that will primarily focus on non-farm micro enterprises. The Fund to begin with, will have a modest corpus of Rs.500 crore going up to Rs.1000 crore in the fifth year.

This Fund will be created on the pattern of NABARD or SIDBI and is exclusively meant for meeting the financing and promotional assistance gaps in the development of the Non Farm Unorganised Sector.

1.12 *A Special Programme for Marginal and Small Farmers* (NCEUS 2008b): This short report submitted in December 2008 was intended to focus on the agricultural economy in the country which is synonymous with informal economy. While there exists a large body of literature on the problems and challenges being faced by the agricultural economy as well as recommendations of a number of committees and commissions, our idea was to focus on the marginal and small farmers, as distinguished from farming and relating activities, who constitute 84 percent of all farmers contributing to a little more than half the GDP from agriculture. This special programme suggests a group approach to the delivery of various services to the farmer and farming and related activities.

1.13 *Report on Growth Pole for the Unorganised Sector* (NCEUS 2009a): Up-scaling cluster development through Growth Poles was a key recommendation by the NCEUS in its August 2007 report on “The Conditions of Work and Promotion of Livelihood in the Unorganised Sector”. The report on *Growth Poles Programme for Unorganised Sector Enterprise Development* brought out the concept of this up scaling cluster development in a contiguous geographical area to create sustainable employment and incomes with accompanying socio-economic gains. Implementation of the programme involves proactive participation of the government, the private sector and beneficiary groups. In the first instance, the Commission is proposing six pilot Growth Poles for consideration by the Government, viz., Sikandra in Rajasthan, Domjur and Panchla in West Bengal, Kollam in Kerala, Chamoli in Uttarakhand, Champa and Janjgir in Chhattisgarh, South-Western Kamrup in Assam. Based on the experiences from these pilot projects more growth pole projects, at least one in each state can be supported during the Eleventh Plan.

1.14 *Report on Skill Formation and Employment Assurance in the Unorganised Sector* (NCEUS 2009b): The Commission’s Report on Skill Formation and Employment Assurance in the Unorganised Sector brought out various aspects of the need and also the ways to enlarge skill base of the economy in keeping with its large size, heterogeneity, and nature of the growth dynamics of the informal or unorganised sector. While recognizing the necessity of increasing the number of skilled persons across the economy, our report emphasized the need to take an informal sector-specific view of the issue because of the preponderance of employment in informal sector. Skill requirement of the informal sector therefore has to be visualized quite differently from the formal sector. The Commission has also laid out in the report a detailed strategy and formulated a set of recommendations for revamping, expanding and re-orienting the existing skill development system in India.

1.15. *Report on Technology Upgradation for Enterprises in the Unorganised Sector* (NCEUS 2009c): This report examines the status of technology in the informal (micro) and small scale enterprises and makes recommendations for its upgradation. The report shows that even 85 percent of registered small scale units did not have access to technical know-how. It recommends the constitution of a focal point for improvement in productivity and competitiveness of enterprises in the unorganised sector. It also suggests the adoption of a mission mode approach for promotion of technology in the unorganised sector through CSIR and recommends that Technological Innovation and Dissemination Centres (TIDCs) be set up in each state/UT and District Industries Centres should act as district level nodal agency for technology dissemination.

Other Reports and Proposals

1.16. In the course of its functioning, the Commission also submitted a few proposals to the government on selected issues. Prominent among these are the Revised National Policy for Urban Street Vendors (NCEUS 2006a), and “Global Economic Crisis and the Informal

Economy of India (NCEUS, 2008c) submitted in November 2008 on the need for a informal-economy focused response to the impact of the global financial and economic crisis on India. The main features of this proposal were (i) to increase pro poor public investment such as JNNURM, (ii) strengthening NREGP, (iii) introduction of an urban employment guarantee programme, (iv) increasing the access to credit for micro enterprises and (v) the immediate announcement for creating the NAFUS.

Follow up by Government

1.17. The government has taken up consideration of the recommendations of the Commission through various modalities, including setting up of Committee of Secretaries, and mandating discussions between the NCEUS and the Planning Commission. Considering the wide ambit and the number of reports from the Commission, the government constituted in August, 2008 an Inter-Ministerial Group to examine the various recommendations to advise the government on appropriate follow up action.

1.18. It is hoped that such new initiatives as might be taken by the government will contribute decisively to the narrowing of the gap between the 'suffering' and 'shining' India.

This Report

1.19. This Report in a sense is an overarching one encompassing the entire agenda set out in our Report on Conditions of Work. At the same time, it goes beyond the specific recommendations by providing a broader framework within which the challenge of inclusive development is examined. Here the Commission has placed employment as the central objective around which the objective of inclusion could be realized. In doing so, the Commission has examined the employment implications of economic reforms and the need for an employment strategy to meet the twin challenges of quantity and quality. It then advocates a strategy of

'leveling up' the informal economy to close the widening gap between the formal and informal segments in India's overall economy.

Organisation of Chapters

1.20. Chapter 2, following this introductory chapter, sums up the argument in the entire report by pulling together the various views and findings based on empirical analysis. It has been written more in the nature of an argument than a technical summary.

1.21. Chapter 3 examines the various measures currently in use for measuring employment and unemployment in the economy and puts forward, through practical application, a modified approach to get a better understanding of the intensity of work of the employed and underemployed.

1.22. Chapter 4 takes stock of the size and characteristics of the labour force by an examination of past trends and points out the structural weaknesses.

1.23. In Chapter 5 we discuss the likely increase and its regional spread in the labour force and wonder whether it indeed constitutes a demographic dividend or a demographic burden unless concerted efforts are made to invest in human capital and human development.

1.24. Chapter 6 is a link chapter between the analysis and the following chapters on recommendations. It recaptures the Commission's work in examining employment and work through the lens of formality and informality and seeks to establish that a major problem in employment in India is its quality that is captured by informality. The chapter then sets the agenda for a strategy of leveling up. Before doing so, the report examines an often flaunted horse - labour reform.

1.25. So in Chapter 7 we discuss the agenda of labour reforms which is sought to be reduced to a debate on labour market inflexibility (ironically in an economy dominated by 92 percent of informal workers). Here the Commission comes up with a broader agenda of labour law reforms that recognizes the need for a simplified and harmonised national labour court and a certain minimum of protective regulation for the vast informal sector.

1.26. Chapter 8 is devoted to a discussion on the need for a massive skill formation programme but one that is focused on informal sector.

1.27. Chapter 9 emphasizes the role of public employment programmes as a regular feature and makes a series of recommendations for strengthening the historic initiative in the form a National Rural Employment Guarantee for rural households. It also recommends a similar programme for urban areas.

1.28. In Chapter 10 we discuss the situation of marginal and small farmers and need for a farmer-focused programme to create and strengthen them as a group through a network of organisations.

1.29. Chapters 11 to 14 are exclusively devoted to a discuss of the size, situation and problems of the non-farm micro enterprises that absorbs the largest segment of informal workers after agriculture while contributing to a little more than 30 percent of GDP. The enormous scope for strengthening them through greater access to credit, technology, marketing and raw material is specially highlighted and recommendations made.

1.30. Finally, Chapter 15 pulls together the various recommendations in one place.

2

Expanding employment in the Indian economy

Introduction

2.1. The expansion of employment that ensures adequate livelihood security and decent conditions of work ought to be the bottom line in the pursuit of economic development in a country like India dominated by what is called the informal economy. Here informality in employment refers to the absence of employment and/or social security and it is overwhelmingly associated with low income, poverty and vulnerability. India's Five Year Plans have been, by and large, based on maximizing the growth in national income to which some policies and programmes were incorporated to redistribute income and generate employment arising out of the combination of backlog of unemployment and additions to the labour force.

2.2. The policies for promoting employment have been mainly, if not exclusively, aimed at increasing the quantity of employment which is what the official statistical surveys capture using multiple concepts and definitions. This approach which considers employment to be a scalar or one-dimensional quantity actually has multiple dimensions and attributes. These have to do with regularity (job security or employment security), income security and social security and decent conditions of work. Decent conditions of work, as pointed out by this Commission in its earlier *Report on Conditions of Work and Promotion of*

Livelihoods in the Unorganized Sector (henceforth referred to as Report on Conditions of Work; see NCEUS 2007a) pertains to issues such as payment of minimum wages, hours of work, safety conditions, and freedom of association and dispute redressal. Thus, each of these broad dimensions can be further considered to be associated with a number of attributes which we have discussed in our previous reports. Together, these attributes comprise what we may call quality of work.

2.3. The aspect of quality that is commented upon most widely arises from a disconnect between employment and a minimum level of consumption or income. As observed by many scholars and official agencies, for example Planning Commission (2001), with an unemployment rate of 8 percent, the estimated head count ratio of poverty in India was 26 percent in 1999-00. In other words, a large number of people were employed in some sense, but did not earn enough. This is a very important dimension of employment but not the only one that this Commission has focused upon in its work under the rubric of "quality" of employment.

2.4 At the margin, these two dimensions of work viz. quantity and quality are themselves related. Availability of work in sufficient quantity could impact on wages and working conditions (e.g. Planning Commission 2001) but this aspect needs careful consideration, more so in the context

of self-employment. If a person's employment status varies by the day and over seasons, and even within a workday, when do we say that a person is employed? What about the intensity of such work? Clearly some minimum benchmark level of regularity in employment should be required before we describe a person as employed. The usual empirical definition of employment followed in the Indian context is that of "usual status"¹ which has been contested by the Planning Commission Special Group (Planning Commission 2002a) which preferred to use the concept of average number of persons, based on "current daily status"². However, this also is not without major limitations, as we discuss later in this report. The Commission has therefore proposed an alternative measure, combining weekly and daily status, which we call the Modified Current Weekly Status³ or MCWS⁴ which enables us to have a better estimate of more durable employment, while at the same time distinguishing this from underemployed or part-time workers for whom also work opportunities have to be significantly stepped up. Table 2.1 gives the Commission's estimate of employment and underemployment based on MCWS measurements in 1993-94 and 2004-05.

2.5 Broadly put, quantity and quality of employment have independent attributes but are also closely related and any strategy of employment has to address both these sets of issues. It is only quite recently that some attention is being given to quality of employment. The Taskforce on Employment (Planning Commission 2001) mentioned employment quality as an issue but did not define it. The Special Group (Planning Commission 2002a) suggested the need to take a broader view of employment quality which include elements such as earning, minimum wage and security but did not again define the constituent elements of 'quality'. The Eleventh Five Year Plan has

Table 2.1: Estimates of Labour Force, Work Force and various measures of the Unemployed as per MCWS measurement (in million)

	1993-94	2004-05	Growth Rate (%)
Labour force	345.15	429.88	2.02
Workers	326.97	401.13	1.88
Unemployed	18.18	28.74	4.25
Severely Unemployed	18.08	28.65	4.27
Strictly			
Part-time Workers	10.90	13.06	1.66
Under-employed	5.69	9.57	4.84
CWS Worker	342.92	423.36	1.93

Note: Severely Unemployed refers to those reporting unemployment for 3.5 days or more of the week; Strictly Part-time Workers refers to persons who worked for 0.5 to 3 days in the week and are not available for work even for 0.5 days during rest of the week; Under-employed refers to persons who worked for 0.5 to 3 days in the week and are unemployed for at least 0.5 days in the week

Source: NSSO 50th and 61st Round Survey on Employment-Unemployment. Computed.

also reiterated the need to generate employment of adequate "quality" that constitutes "decent work". Thus there has been lack of clarity on what constituted employment quality. As compared to these earlier reports, this Commission has given a detailed typology and description of employment quality in its Report on Conditions of Work and this report extends the analysis of employment further in new directions.

2.6 What is the nature and magnitude of the employment problem in India? What needs to be done to address it? There are distinctly different views on these issues. The Indian economy underwent a major course change in 1991-92 involving structural adjustment and

1 Usual status includes both principal and subsidiary status of persons. A person is considered to be in the labour force as per usual principal status if s/he had been either working or looking for work during longer part of the 365 days preceding the survey. Those who, were not in labour force as per usual principal status but had worked usually on a subsidiary status were considered as subsidiary status workers and included in the usual principal and subsidiary status (UPSS) labour force in the year 2004-05, a minimum duration of employment of 30 days in the year was introduced for inclusion in the labour force on a subsidiary status

2 Current Daily Status is decided on the basis of the information on employment and unemployment recorded for each of the 14 half days of the reference week.

3 A person is classified to be in labour force as per current weekly status, if s/he has either worked or is seeking work and/or available for work at least one hour during the reference period of one week preceding the date of survey.

4 A person is classified to be in the labour force as per MCWS, if he has been working or seeking and/or available for work for majority of the time while in labour force. This is usually for 3.5 days or more during the reference week.

internal and external liberalization. These changes were expected to give a major fillip to the labour intensive sectors, in agriculture, industry as well as services, by removing the negative fall-out of protectionist strategies and encouraging trade. The resulting scenario was expected to bring about higher growth, higher rates of employment growth, and a faster rate of increase in the incomes of workers engaged in the labour intensive sectors. These impacts were not expected to be restricted to tradable sectors and commodities, but as in the case of agriculture, were expected to be economy wide. Growth was thus not only expected to be higher but also pro-employment and therefore pro-poor, raising incomes among the workers in the labour intensive sectors of the economy.

2.7 Since the early 1990s, a wealth of information is now available on the country's record of employment and workers' wellbeing. In the earlier reports, this Commission has examined, among other sources, the record of employment and wages available from the NSS Employment-Unemployment Surveys, the NSS surveys on consumption expenditure, the enterprise surveys, the survey on Situation Assessment of Farmers, and the Annual Survey of Industries. Work within the Commission (Kannan and Raveendran 2009) as well as specially commissioned studies for this report (Golder 2009 and Mitra 2009) have examined (a) the performance of the organized manufacturing sector in terms of growth and employment, and (b) the links between trade and employment, and the record of employment in the most recent years, using company data (in the absence of survey data). In other words, the data analysed and studied by this Commission goes well beyond what other studies/reports have hitherto used to answer related sets of questions.

2.8 The succinct answers that the Commission has found are briefly the following:

First, the record of employment-unemployment in more than a decade since 1993-94 (1993-94 to 2004-05) has been unimpressive compared to the previous decade (1983 to 1993-94), and this despite

higher aggregate growth. We have estimated that the annual growth rate of employment declined from 2.03 percent in 1983-1993/94 to 1.85 percent between 1993-94 and 2004-05 as per UPSS estimates with the corresponding decline being from 2.72 percent to 1.88 percent as per MCWS measurement.

Second, employment in India can be meaningfully grouped into four categories to reflect quality and its sectoral association. These are (a) formal employment in the formal or organised sector, (b) informal employment in the formal sector, (c) formal employment in the informal sector, and (d) informal employment in the informal sector. We find that the Indian economy is dominated by (d) constantly around 86 percent of employment as of 2004-05.

Third, the net growth of employment in the quinquennium for which we have data (1999-00 to 2004-05) has been largely of an informal⁵ kind, implying that these workers are vulnerable in significant ways. This is true of both formal and informal sectors. What this means is that even the increase in employment in the formal sector is entirely that of informal employment suggesting informalisation of the formal sector as far as employment is concerned.

Fourth, the growth rate of wages of almost all categories of workers (15 out of the 16 given in Table 2.2), including casual work⁶ which concerns the bottom layer of workers has declined during 1993-94 to 2004-05 characterized by economic reform compared to the previous decade of 1983 to 1993-94. This is clearly a case of generalized slow down in the growth of wages when the overall economy registered a higher growth in income during the second period compared to the first.

Fifth, the informal sector enterprises face higher constraints on growth due to lack of access to credit, technology, marketing, skills, and also incentives. Various reports, surveys and studies have brought

5 Informal and formal division is not available for previous years

6 Except regular rural females in agriculture

this out time and time again. Despite such a longstanding and perceived absence of a 'level playing field' to the micro (as well as small enterprises that are outside the definition of informal sector enterprises), policy attention largely, if not only, catered to the creation of 'special playing field' (e.g. in the form of Special Economic Zones and greater access to domestic and external institutional credit) for large corporate entities further undermining the capacity of the micro and small enterprises to provide productive employment to the growing labour force.

Sixth, a large proportion of the Indian workforce and the Indian population (more than three-quarter) continues to be 'poor and vulnerable' as per the criteria developed by us and this segment has experienced very low rates of improvement in living standards as a whole since the early nineties (see NCEUS 2007a; for details see Sengupta, et.al. 2008).

Finally, the growth that occurred has been unequal, concentrating its benefits among the top segments of the population.

2.9 In line with our recommendations in the *Report on Definitional and Statistical Issues Relating to the Informal Economy* (NCEUS 2008a), we have used the terms

'formal/informal' and 'organised/unorganised' interchangeably such that they are consistent with international definitions adopted by the International Conference of Labour Statisticians and the International Labour Organisation.

Formal Sector Employment

2.10 It is clear to us that the growth that has occurred in the period examined by the Commission (1993-94 to 2004-05), along with all the other concomitant changes, for example in labour markets, has not been able to impact appreciably on either the quantity or quality of employment in the country. The mandate of this Commission has been to examine the informal economy which comprises of the most vulnerable sections of the labour force. The formal workers in the formal economy are better protected in terms of the dimensions of quality that we have enunciated earlier. In the existing institutional arrangements, improvement in the quality of work is strongly associated with increasing formalization of the workforce. However, the organized or formal sector continues to be stagnant in terms of formal employment, an issue which needs to be addressed for improving quality of employment/work.

2.11 Prior to the work of this Commission, all reports and studies in India have relied on Employment Market

Table 2.2: Growth rates of Average Daily Earning of workers in the age group 15-59 years (at 1993-94 prices) (in Rs.)

Population Segments	Worker Status	1983/1993-94		1993-94/2004-05	
		Agriculture	Non-agriculture	Agriculture	Non-agriculture
Rural Male	Regular	4.6	4.4	4.1	2.6
	Casual	3.6	4.0	2.2	2.4
Rural Female	Regular	2.5	3.5	3.4	3.1
	Casual	3.6	4.1	2.2	3.8
Urban Male	Regular	4.5	3.1	0.2	2.0
	Casual	2.1	2.3	0.9	1.2
Urban Female	Regular	5.0	4.0	0.2	1.9
	Casual	3.1	3.6	0.5	1.6
Growth Rate in GDP		2.8	6.1	2.5	7.5

Note : Regular includes salaried.

Source : NSSO 38th, 50th and 61st Round Survey on Employment-Unemployment. Computed.

Information (EMI) data of the Director General Employment & Training (DGET) of the Ministry of Labour and Employment for employment statistics relating to the organized or formal sector or a more restricted data set on industries, collected by the Central Statistical Organisation in the Annual Survey of Industries (ASI).

2.12 Since EMI data captures all formal enterprises and establishments, this is the only source of information on formal sector employment in the country. However, it suffers from many drawbacks which needs to be kept in mind⁷ before we interpret this data even for our limited purpose of understanding the direction of change in formal sector employment. All enterprises and establishments employing more than 25 workers are required to report employment data on a mandatory basis for the EMI⁸, while units employing between 10 and 25 workers may do so on a voluntary basis. Questions have been raised in the past on the reliability due to increasing under coverage and under reporting over the years, But the EMI data has remained the only source on organized employment in the country.

2.13 According to this data, there has been a gradual shrinkage of the share of the organized sector employment in India. Total organized sector employment was estimated at 24.01 million in 1983 and this increased to 27.18 million in 1993. It then reached a peak of 28.24 million in 1997 but then started declining and reached a low of 26.64 in 2006, the latest year for which data are available. As a share of the total work force in the economy the formal sector employment reported by the DGET works out to 7.9 percent in 1983, 7.3 percent in 1993-94 and 5.8 percent in 2004-05. Although public/government sector employment has witnessed a greater decline (from 5.4 % of the workforce in 1983 to 5.2 percent in 1993-94 and then to 3.9 percent in 2004-05), private organized sector employment also shrank as percentage of the total workforce (from 2.5 percent in 1983 to 2.1 percent in 1993-94 and just 1.8 percent in 2004-05). In absolute terms, the public sector added

2.87 million between 1983 and 1993 but shed 1.46 million between 1993 and 2006. As against this the private sector added just 30 thousand jobs during 1983 and 1993 and another 92 thousand during 1993 and 2006. These details given in Appendix 2.1 as well as in Fig. 2.1 also tell us that in relative terms, the organized public sector continues to be twice as important as the private sector and the latter constituted less than two percent of the workforce by this estimate. Compared to the policy attention and preferred treatment accorded to the organized private sector (e.g. cheaper credit, greater and easy access to external borrowing, export incentives, special treatment via SEZs, privatization of public enterprises and a host of other measures), its contribution to employment, as reported by the DGET, is indeed miniscule, to say the least.

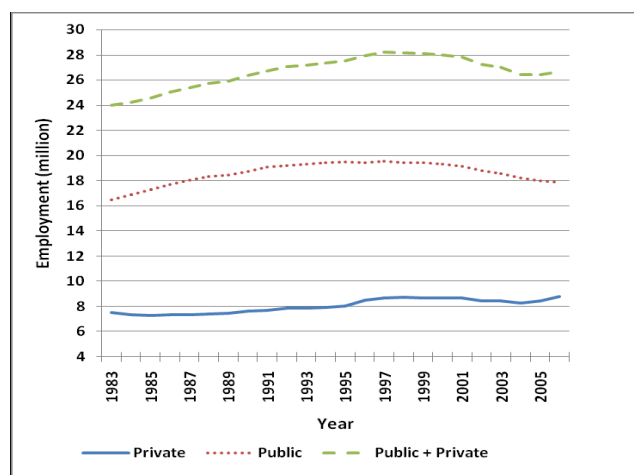
2.14. The other data source which relates principally to organized manufacturing (with some component of repair and services and mining) is the Annual Survey of Industries. Unlike the EMI, this data source shows some fluctuations in growth rate of employment which have been extensively analysed in scholarly papers and which we briefly refer to later. Comparison with the EMI data also shows that the former is higher suggesting under-coverage or under reporting in the latter⁹. For example in 2004-05, manufacturing employment as reported by the ASI was 8.29 million, but the DGET figure for organized manufacturing employment was only 5.62 million.

2.15 Detailed analysis of the work force in organized manufacturing sector using ASI and after making adjustments due to changes in the coverage of the survey, show a stagnant phase in the 1980s, followed by increase in employment in the early to mid-1990s, a decline thereafter, and some recovery and growth for the most recent year i.e. 2004-05 (see Fig. 2.2). Overall, however, organized industrial employment has seen very little growth for a period close to quarter of a century.

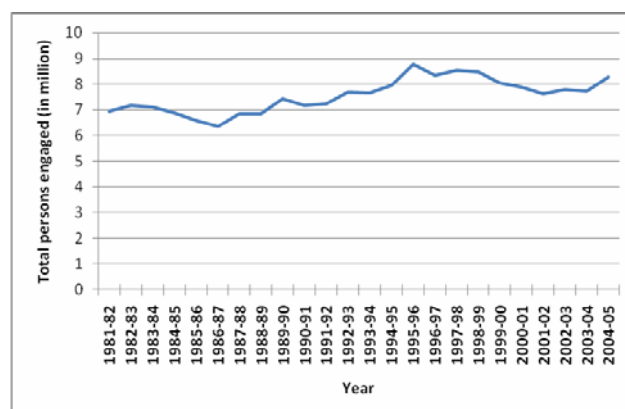
7 These are (i) use of incomplete list of establishments, (ii) partial responses, (iii) non-coverage of contract, casual and temporary employment and (iv) delays in reporting.

8 Under EMI, establishments in Mumbai and Kolkatta employing 10 to 24 workers are not covered.

9 NCEUS has recommended discontinuation of the system of approximating the organised sector employment with the estimates of DGET and to use NSS employment-unemployment surveys to estimate the same.

Fig. 2.1: Employment by Public and Private Sector between 1983 and 2006

Source: Ministry of Labour & Employment (DGE&T).

Fig. 2.2: Total persons engaged in Manufacturing Industries

Source: Annual Survey of Industries (For details on adjustment of data to obtain a long-term series on manufacturing proper see, Kannan and Raveendran 2009).

Formal and Informal Employment in the Formal Sector: Commission's estimates

2.16 The NCEUS has not only given a clear definition of the formal/organized sector, it has also directly estimated the employment in the formal sector using unit record data from the National Sample Survey Employment-Unemployment Rounds of 1999-00 and 2004-05. The Commission has used the following definition to separate the unorganised sector from the organised sector:

"The unorganised sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers".

2.17. The Commission considers all agricultural activities undertaken on agricultural holdings, either individually or in partnership, as being in the unorganised sector. According to this definition, it excludes only the plantation sector and other types of organised agriculture (e.g. corporate or co-operative farming) and covers a very large part of agriculture.

2.18. The definition of the unorganised enterprise constituting the unorganised sector given here is a generic one in the sense that it has no legal personality of its own (other than the person who owns it); it is small in employment size and, more often than not, associated with low capital intensity and labour productivity. The diverse nature of these enterprises is often a response to the demand for a variety of low-price goods and services produced in different modes of self-employment, unpaid family labour and wage work (often concealed as self-employment under different forms of putting-out systems).

2.19. The Commission has also made an important distinction between organized or formal and unorganised or informal employment as follows:

"Unorganised workers consist of those working in the unorganised enterprises or households, excluding regular workers with social security benefits, and the workers in the formal sector without any employment/ social security benefits provided by the employers".

2.20. The employees with informal jobs generally do not enjoy *employment security* (no protection against arbitrary dismissal) *work security* (no protection against

accidents and illness at the work place) and *social security* (maternity and health care benefits, pension, etc.) and these characteristics can be used for identifying informal employment.

2.21. Using the definition given above, the Commission has prepared direct estimates of employment in the unorganised sector based on its definition given earlier. These have been discussed in detail in two reports of the Commission (NCEUS 2007a, NCEUS 2008a). The total employment (principal plus subsidiary) in the Indian economy was 456 million, of which *informal sector* accounted for 393.2 million (Table 2.3). This direct estimation shows that the unorganised sector constituted 86 per cent of total workers in 2004-05 (as was the case in 1999-00 as well). Of the 393.2 million unorganised sector workers, agriculture accounted for 251.7 million and the rest 141.5 million are employed in the non-agriculture sector.

2.22. The agriculture sector consists almost entirely of informal workers who are mainly the self-employed (65 per cent) and the casual workers (35 per cent).

2.23 The percentage of non-agricultural worker in the informal sector rose from 32 per cent to 36 per

cent between 1999-2000 and 2004-05. These workers are mainly the self-employed (63 per cent). The rest of the workers in the non-agriculture informal sector are more or less equally distributed between the regular salaried/wage workers (17 per cent) and casual workers (20 per cent). The non-agriculture sector is also predominantly informal and the share of the informal sector has increased to nearly 72 per cent in 2004-05, an increase of 4 percentage points from 68 per cent in 1999-2000.

2.24 Turning now to informal workers, as far as the informal or unorganized sector is concerned, only about 0.4 per cent of the workers in this sector were estimated by us as being formal workers in 2004-05 in the sense that the regular salaried/wage workers in the sector were receiving social security benefits like Provident Fund. All the rest were informal workers numbering 391.8 million. In the formal/organized sector, we have estimated the number of formal and informal workers to be 33.7 million and 28.9 million respectively in 2004-05.

2.25 We have earlier shown the very interesting relationship between the formal/informal sector and formal/informal employment which we again highlight here. The total employment in the economy has increased from 396 million to 456 million between the two NSS rounds in 1999-00 and 2004-05. The change in the

Table 2.3: Relationship between Sector and Type of Employment (UPSS), All Workers 1999-2000 and 2004-05

Formal/Informal Sector	Total Employment (Million)		
	Informal/ Unorganised Worker	Formal/ Organised Worker	Total
1999 - 2000			
Informal/ Unorganised sector	393.7 (99.5)	1.8 (0.5)	341.5 (100.0)
Formal/ Organised sector	23.1(42.1)	31.8 (57.9)	54.9 (100.0)
Total	362.8 (91.5)	33.6 (8.5)	396.4 (100.0)
2004 - 2005			
Informal/ Unorganised sector	391.8 (99.6)	1.4 (0.4)	393.2 (100.0)
Formal/ Organised Sector	28.9 (46.2)	33.7 (53.8)	62.6 (100.0)
Total	420.7 (92.3)	35.0 (7.7)	455.7 (100.0)

Note : Figures in brackets are percentages.

Source : NSSO 55th and 61st Round Survey on Employment-Unemployment. Computed.

organised or formal employment has been marginal (i.e. 33.6 million to 35.0 million). Therefore, the increase in total employment has been of an informal kind i.e. 58 million (from 362.8 to 420.7 million) or 16 per cent. However, if we view the increase from a sectoral point, employment increased by 7.7 million or 14 per cent (from 54.9 to 62.6 million) in the formal sector.

What this means in simple terms is that the entire increase in the employment in the organised or formal sector over this period has largely been of informal in nature i.e. without any job or social security. This constitutes what can be termed as informalisation of the formal sector, where any employment increase consists of regular workers without social security benefits and casual or contract workers again without the benefits that should accrue to formal workers.

2.26 A comparison of the estimate of formal sector employment made by us and the DGET estimates are quite instructive. First, contrary to what the DGET has been reporting, NCEUS does find an increase in *formal sector* employment between 1999-00 and 2004-05 (from 54.9 million to 62.6 million). Second, our estimates of formal sector employment (in total workforce) are higher – 13.7 percent in NCEUS estimates and only 5.8 percent in DGET estimates. However, our direct estimates of the formal employment in the organised sector are much closer to the DGET estimates for both the comparable years (28.0 million and 26.5 million in DGET estimates while 31.8 million and 33.7 million in our estimates). This is most likely because DGET underreporting is principally confined to informal workers. Thus we not only find formal sector employment to be higher than the existing official estimates, but we also find some growth in formal sector employment over the years 1999-00 and 2004-05. But the share of *formal* employment in the total employment has declined, or conversely, the share of informal employment in total has increased.

What explains lack of growth in Formal Sector employment?

2.27 The Commission's estimates of informal and formal employment in the organized sector indicate that a substantial restructuring of employment relations is under way in the organised or formal sector, not

captured by any of the earlier studies and reports. Some of the trends that we have observed appear to be part of the international trend towards greater flexibility of employment, unbundling of manufacturing employment (leading to outsourcing of various services earlier enumerated in the manufacturing sector and hence tertiarization of employment), and an expansion in other types of outsourcing and contract services in both the secondary and tertiary sector. Some of these trends have been facilitated by the growth of telecommunication and IT services. Overall, this has led to a growth in the share of employment in the informal sector in industry and services along with growth in informal employment in the organized sector.

2.28 We therefore need a careful consideration of the data that emanates from sources such as the ASI which provide employment estimates based on workers/factories maintained on the factories. However, both the overall trend in ASI employment and the variations in inter-industry employment retain considerable significance. Based on this data, we observe that the organized industrial sector has seen overall growth in gross value added and worker productivity with little growth in employment. It therefore follows that growth is principally due to the rising capital intensity of the industrial sector. Explanations therefore focus on why the organized or formal industrial sector has witnessed rising capital intensity.

2.29 These explanations naturally vary between the public and private sectors. In the case of the former, the sector has been subjected to change in policy involving restrictions on technological upgradation (e.g. Indian Telephone Industries) and investment of surpluses while facing greater competitive pressures, privatization and closures of sick units leading to shedding of manpower. The consistent data series that this Commission created for organized manufacturing show that the public sector shed 0.86 million workers while the private sector shed 0.68 million workers between 1996-97 and 2003-04. The comparative estimates of employment in the formal sector as available from DGET and as estimated by NCEUS from NSSO data for the years 1999-2000 and 2004-05 are given in Table 2.4.

Table 2.4: Comparative statistics of Formal Sector Workers and Formal Workers (DGET and NCEUS estimates) in the Non-Agricultural Sector.

Source	Number of workers (in Million)			Percentage Share in Total work force		
	1993-94	1999-00	2004-05	1993-94	1999-00	2004-05
	Fomal Sector workers (DGET)					
Private Sector	7.93	8.65	8.45	2.13	2.18	1.85
Govt/Public Sector	19.45	19.31	18.01	5.22	4.87	3.95
Public and Private Sector	27.38	27.96	26.46	7.35	7.05	5.81
	Formal Sector Workers (NSSO/NCEUS)					
Private Sector		30.43	32.82	N.A.	7.68	7.20
Govt/Public Sector		18.91	23.73	N.A.	4.77	5.21
Public and Private Sector		49.34	56.55	N.A.	12.45	12.41
	Formal Sector Formal Workers (NSSO/NCEUS)					
Private Sector		13.15	11.06	N.A.	3.32	2.43
Govt/Public Sector		16.13	19.72	N.A.	4.07	4.33
Public and Private Sector		29.28	30.78	N.A.	7.39	6.75
Total workforce (UPSS)	372.42	396.39	455.70	100	100	100

Note: Total workforce estimates are based on NSS Employment-Unemployment Surveys in the respective years and include informal sector workers.

Source: (1) Ministry of Labour & Employment (DGE&T) (2) NSSO 38th, 50th and 61st Round Survey on Employment-Unemployment. Computed.

2.30 In the case of the private sector, while different arguments have been advanced for the 1980s and for the 1990s and beyond, a common argument (often described as central) that is made for both periods is that entrepreneurs have been encouraged to take a capital intensive route due to excessive labour market rigidity and institutional features of formal labour markets. Three features are singled out in this context viz. inability of large firms (employing more than 100 workers) to retrench workers without securing government permission (under Chapter VB of the Industrial Dispute Act, introduced in 1976 and amended in 1982); inability of firms to acquire a flexible labour force through contract arrangements, since the relevant Act restricts contract labour only to designated “non-perennial” activities; and the industrial relations environment constituted by the Trade Union Act 1926, the Industrial Dispute Act, and a plethora of other laws which significantly raises the transaction cost for employers. The Planning Commission (2001) offers a clear statement of the above views and the need for “labour reforms”, comprising changes in these three areas.

2.31 The evidence for the 1990s based on the ASI data for organized manufacturing, summarized in a

number of studies, including those carried out specifically for this Commission (Nagaraj 2007, Jha and Saktivel 2007, Chandra 2007 and Papola 2008), shows that in the recent period, (i) there were hardly any cases where firms were refused permission to retrench workers; (ii) the percentage of contract workers has steadily increased, although this increase has been very sharp in states which have made changes to the contract labour legislation; (iii) the industrial relations climate has visibly improved due to a number of factors and this is shown in reduced number of days lost due to strikes. We, therefore, do not consider labour reforms as a major impediment to expansion in employment in the organized or formal sector. This is also shown by the fact that a number of industries have indeed shown reasonably significant increases in employment (see Kannan and Raveendran 2009). Nonetheless, as long as labour laws on the statute books are restrictive, employers may still bear a cost and may simply avoid hiring labour to circumvent transaction costs. In any case, the actual functioning of the organized sector labour market, does not obviate the need to consider issues of income security, job security, conditions of work, industrial relations etc. balancing the needs of workers, employers and the industry. The Commission has therefore considered these issues and has made a number

of recommendations in Chapter 7.

2.32 The work carried out by this Commission and some of the studies commissioned by us show that there are other important reasons which are responsible for rising capital intensity and slow growth in employment. First, the product composition of exports has been in favour of higher capital and skill intensity (Goldar 2009, Chandrasekhar 2009). Second, both Kannan and Raveendran (2009) and Chandrasekhar (2009) have shown that the expansion in domestic demand has been in favour of products demanded by high income groups, such as automobiles and white goods, whose consumption has grown at a much higher rate, due to rising incomes and credit induced expansion in demand. There has been a shift in demand in favour of those goods demanded by the newly rich classes which has been made easy by a rather aggressive pursuit by banks expanding personal finance loans. This satisfied the demand for products which are similar to 'foreign goods' that was not earlier satisfied since the enterprises also have to produce goods, which would be similar to those that could now be imported. These product groups are on the average more capital intensive. Further, there is a view that the cost of capital has fallen relative to labour encouraging firms to substitute capital for labour (Chandrasekhar 2008, Goldar 2009). Interestingly, this has happened in a period when share of wages in value added has consistently declined and real wages of workers have been virtually stagnant¹⁰.

Growth and Employment

2.33 The Indian economy has experienced fairly high growth rate under different policy regimes (over close to three decades.) We have seen above that as per one set of data sources (EMI, ASI), the organized sector has experienced little growth in employment in these years. In the alternative (Commission's) estimates, formal employment in the organised manufacturing sector did not record any growth during 1999-2000 to 2004-05 though there had been growth in the formal sector. The formal employment in the entire formal sector also recorded only a marginal growth as compared to a growth rate of 2.66 percent in the formal sector employment.

2.34 However, given the linkages between formal and informal employment, our interest is not only to understand the growth in employment separately in the formal and informal sectors, but also to examine how growth has impacted overall on employment, howsoever measured.

2.35 For our purposes, we have focused on employment in 1983, 1993-94 and 2004-05 for which NSS data estimates are considered more comparable. We have also used two measures of employment – Usual Status which is the most commonly used measure, and an alternative measure discussed earlier based on the Modified Current Weekly Status (MCWS). Details of employment based on these measures are provided in Chapter 4. Our results show clearly that although the growth rate of GDP increased in the latter period (1993-94/2004-05) the rate of growth of employment declined across all measures. Moreover, the unemployment rates have shown a secular increase (Table 2.5).

2.36. Other evidence analysed in detail in the Report on Conditions of Work and summarized in Chapter 6 of this report also does not show any signs of labour market tightening. In fact, as discussed earlier, the rate of growth of wages in this period has been lower than in the earlier decade. We have also made reference to increasing informalisation over the recent period as well as other attributes of employment such as working hours, occupational safety etc. In short, available evidence suggests that the higher growth in the post reform period did not translate into the same rate of improvement in the quantity or quality of employment, but at the same

Table 2.5: Unemployment Rates over the Years based on Different Measurements

Measurement	1993-94	2004-05
UPS	2.6	3.2
UPSS	1.9	2.4
CWS	3.6	4.4
CDS	6.0	8.2
MCWS	5.3	6.7

Source: NSSO 50th and 61st Round Survey on Employment-Unemployment. Computed.

10 Share of wages in value added has declined from 32.2 percent in 1992-93 to 20.9 percent in 2004-05. The growth in real wages of workers during the above period was just 0.27 percent.

time, changes in modes of employment. Overall an important change in the mode of employment has been an increase in the share of self-employed (from 54.72 percent in 1993-94 to 56.61 percent in 2004-05). When the working poor are unable to find wage employment, they resort to some work by creating their own employment in such types as street vending, taking up home-based work or assisting earning family members. At the bottom of the working poor, this indeed is a sign of distress as shown in the slow down in the growth of earnings of the wage employed (see Table 2.2). In the formal sector, we have also noted the declining share of wages in the organised manufacturing sector. Except a top but thin layer of managerial and supervisory jobs in the corporate segment of the manufacturing and service sector whose impressive gains and annual growth in salaries are news for celebration in the elite media, the picture that emerges for an overwhelming majority of Indians is one of extremely slow improvement or even deterioration in the quality of work.

2.37. For four years since 2003-04, the Indian economy moved to a higher trajectory of growth but very limited evidence is available to draw a balance sheet of employment after 2004-05. No proper assessment of impact of high rate of growth of GDP on employment generation in the economy as a whole in the years following 2004-05 has been possible due to lack of relevant data sets. Unlike most other macro-economic variables like GDP, prices, international trade, foreign exchange, etc there is no regular monitoring of employment even on an annual basis. The results of annual employment-unemployment surveys being undertaken by

the National Sample Survey Organisation (NSSO) are usually available with a time lag of over two years. The estimates available from such surveys are also generally not comparable with those of regular quinquennial surveys because of changes in the sampling design and thin sample size. Further these surveys are not conducted in some of the years. At the time of writing this report, EMI and ASI data available till 2005-06 do suggest some recouping of employment in the organized sector after 2003-04.

2.38. Since ASI data are available only till 2004-05 at the time of writing this report, NCEUS commissioned two studies (Goldar, 2009, Mitra 2009) to estimate employment growth using firm level data. These have been estimated on the basis of company level information obtained from Capital line data and CMIE. Table 2.6 shows the growth in employment in Organized Manufacturing and Service sector firms from 2004-05 onwards. The growth has been calculated based on (i) the number of employees in manufacturing companies, in respect of those manufacturing companies that have reported such data (623 manufacturing firms and 256 firms in service sector.); (ii) estimated employment based on the average wage rate and employee cost for 887 firms in manufacturing and 510 firms in service sector; and (iii) CMIE data 4000 firms and 3000 firms data on manufacturing and service sector respectively. One observes that the in the manufacturing sector there has been consistent employment growth during 2005-06, 2006-07 and 2007-08 across the three different estimates. While in the service sector no clear trend is visible as the estimates is based on the largest number of firms (col. c) reports negative employment growth during 2005-06.

Table 2.6: Growth in Employment in Organized Manufacturing and Service sector Firms 2005-06 to 2007-08 (percent)

Year	Organised Sector Employment				Service sector	
	2	3	4	5	6	7
	A	B	C	A	B	C
2005-06	1.7	7.3	2.1	18.9	13.2	-1.7
2006-07	4.0	11.7	9.9	11.5	15.3	7.7
2007-08	4.0	5.4	-	8.2	11.6	-

Note: The three sets of estimates based on company level information have been worked out in the following way. Cols. (A) and (B) are based on Capitaline data. Col. (A) uses data on the number of employees in respect of those companies that have reported such data Col. (B) is based on estimated employment by using wage rate and wage cost as reported Col. (C) is based on growth in wages and salaries reported in the CMIE publication, Corporate Sector. The number of firms for which relevant data was available were 623, 256, 887, 510, 4000 and 3000 under columns 2 to 7 respectively.

Source : Goldar (2009), Mitra (2009)

2.39. It appears likely that after the restructuring of employment that took place in the earlier period, the high rate of investment and capacity expansion in this period may have led to a recouping/growth of employment in some sectors of the organized economy, reversing the earlier trend.

2.40. These findings are, however, not supported by the results of overall employment available from the NSS annual survey on employment-unemployment conducted during 2005-06. But this could also be due to sampling bias (more weightage of urban areas) and thin sample in the NSS survey. In the case of informal sector, we also have empirical evidence available from the survey on unorganised manufacturing conducted during 2005-06 which does not show any increase in employment as compared to the earlier such survey conducted during 2000-01. But this, however, quite contrary to the results of the Economic Census conducted during 2005. Though Economic Census by itself is not a good source for assessing growth in employment over the years, it showed an average annual rate of growth of 4.6 percent in workers in the informal manufacturing sector between 1998 and 2005. In the case of informal sector services, results of the survey on unorganised sector services conducted during 2006-07

showed an average annual rate of growth of 0.9 percent in work force as compared to 2001-02.

2.41. Thus the evidence on the growth of employment in the informal sector, as well as growth of total employment in the period since 2004-05 is quite mixed, with some sources suggesting an increase but that too over a longer period. We, therefore, undertook an alternative exercise to estimate the workers by industry, sector and status of employment based on employment elasticity observed during 1993-94 and 2004-05. The detailed methodology is given in Appendix to Chapter-6. The employment estimates for each of the years upto 2008-09 by formal and informal sectors are given in Table 2.7 and the annual growth rates are given in Table 2.8. While the over all growth in employment in 2005-06 over 2004-05 was 3.16 percent, it was 1.7 percent in the case of agriculture, 4.67 percent in the case of industry and 4.97 percent in the case of services. The growth in the informal sector workers was significantly higher than that in the formal sector workers in all the industry segments. The same trend was continued in all the years upto 2008-09 for which some estimates of GDP were available. What this means is that the problem of low quality of employment with its attendant in security will continue to loom large.

Table 2.7: MCWS employment estimates (in million)

	Sector	2004-05	2005-06	2006-07	2007-08	2008-09
Agriculture	Formal	4.98	5.00	5.02	5.04	5.06
	Informal	208.03	211.58	213.98	216.98	218.53
	Total	213.02	216.58	219.00	222.02	223.59
Industry	Formal	23.23	23.91	24.69	25.31	25.72
	Informal	54.84	57.82	61.44	64.22	65.85
	Total	78.07	81.72	86.13	89.54	91.57
Services	Formal	30.43	31.06	31.75	32.43	33.06
	Informal	79.61	84.45	90.05	95.68	100.87
	Total	110.04	115.51	121.80	128.10	133.94
Total	Formal	58.64	59.97	61.46	62.78	63.84
	Informal	342.49	353.85	365.47	376.88	385.26
	Total	401.13	413.82	426.93	439.66	449.09

Source: Estimated by NCEUS.

Table 2.8: Growth Rate in MCWS employment

	Sector	2005-06 / 2004-05	2006-07 / 2005-06	2007-08 / 2006-07	2008-09 / 2007-08
Agriculture	Formal	0.41	0.35	0.36	0.32
	Informal	1.71	1.13	1.40	0.72
	Total	1.68	1.12	1.38	0.71
Industry	Formal	2.90	3.29	2.53	1.61
	Informal	5.43	6.27	4.53	2.53
	Total	4.67	5.39	3.96	2.27
Services	Formal	2.07	2.22	2.14	1.95
	Informal	6.08	6.64	6.24	5.43
	Total	4.97	5.45	5.17	4.55
Total	Formal	2.25	2.49	2.15	1.68
	Informal	3.32	3.29	3.12	2.22
	Total	3.16	3.17	2.98	2.15

Source: *ibid.*

2.42 *The growth trends have been sharply reversed since the third quarter of 2008-09, following the international recessionary crisis.* Along with a reversal in the growth trends, there has been a sharp decline in hiring in the formal or organised sector, and there is evidence that large numbers of informal workers, both in the organized and unorganized segments have lost jobs. While quantitative estimates are difficult, this Commission has shown that the impact of the crisis has been very sharp in export intensive industries and the construction sector, but downside effects have been felt across the entire economy (NCEUS 2008c).

2.43 Even if the growth revives it is unlikely to reach the high trajectory seen in the last four years any time soon. This has necessitated new policy stances in order to protect and promote growth in the informal sector which has the potential to grow, given a level playing field especially in accessing credit, technology, marketing and skilled workers. It could then transform from a low productivity/poor working conditions sector to a dynamic one characterized by increasing productivity and decent conditions of work. This calls for a change in the composition of investment and growth in the years to come. Special focus is called for to enhance public investment in agriculture and in such public and collective infrastructure targeted at

the micro and small enterprises that will lead to a more inclusive growth. All these require, in our view, urgent interventions of the type that this Commission has recommended from time to time.

Some Implications of the Growth Pattern for Incomes

2.44 Although the growth that we have observed has not led to an improvement in the employment situation, the fact that the rate of growth has exceeded the rate of growth of employment by nearly 4.5 percent, implies that per worker incomes (noting that three-fifth of the workers are self-employed) should have improved appreciably in recent years. However, we have demonstrated that this has not happened to the extent expected. We have carried out an analysis of the population by categories of well-being, in which we have divided the population into six groups and have termed the bottom four (below twice the poverty line) as “Poor and Vulnerable”, and the two groups above this level as “Middle” (between 2 and 4 times the poverty line) and “High Income” (above four times the poverty line). We have seen how the population has shifted between these groups between 1993-94 and 2004-05. The results were reported in our Report on Conditions of Work (NCEUS 2007a; for a detailed

analysis see, Sengupta et.al. 2008). In this period, the share of the Poor and Vulnerable population fell by to a small extent – from 82 per cent to just 77 per cent but their numbers increased from 733 million to 836 million. The other side of the picture is the increase in the Middle and High Income group from 18 to 23 per cent that now totals 254 million compared to 163 million in the early nineties. More significantly, there has been a very noticeable growth in the consumption of the Middle and High Income groups. The compound rate of growth of consumption of these two groups has been high; 4.3 per cent and 6.2 per cent a year respectively compared with less than one per cent increase a year in the consumption of groups identified as the “Extremely Poor”, “Poor” and “Marginal”.

Thus, the growth pattern has increased consumption inequalities, reducing the benefit to the poorer segments. These segments, we have shown, consist predominantly of the informal workers, among whom the socially deprived groups (SC/ST, OBC and Muslim) and women are over-represented.

2.45 Although this Commission has not carried out a full analysis of changes in the various dimensions of inequality, its analysis shows that growth has not percolated down equally to all sections of workers. First and foremost, there is growing disparity between sectors – agriculture (which is principally unorganized) and non-agriculture. Further, as we have shown in the Conditions of Work Report, wages of both casual and regular (manual) workers have grown much more slowly in this period. In the organized sector, ASI data show a decline in the share of wages in value added (excluding managerial and supervisory employees) (Nagaraj 2007, Kannan and Raveendran 2009, Chandrasekhar 2009). Several studies have also shown an increase in urban-rural and inter-regional inequality (Sen and Himanshu 2004, Mahendradev and Ravi 2007, Deaton and Dreze 2002)

2.46 That there are several domains of inequality in India is quite well known. Most studies have examined not only the regional and gender dimensions of inequality but also income inequalities. The reality of social inequalities arising out of social identity is also something quite familiar to the people at large.

What is not so very clear is the relative dominance of one inequality over another. Analysis based on the empirical work of this Commission as well as from other sources suggests that social inequality arising out of social identity overwhelms all other inequalities, especially regional and gender. And this is in relation to the parameters of basic human development and capability such as chronic poverty, health, housing and basic education (see Kannan 2008). Viewed in the light of such a ground reality it is no wonder that the impressive growth performance has not led to any substantial improvement in the living standards of the poor and vulnerable sections of the population, seventy-seven percent of whom lived on an average consumption of less than Rs. 20 per day in 2004-05. Here again, what we have found is a systemic and hierarchical segmentation. The typical ordering in this pyramid is: Scheduled Tribes and Castes at the bottom, Muslims and Other Backward Castes at the middle and the rest called Others at the top. Of course, each social group contains an upper crust, or what we call Middle and High Income segment (creamy layer?), but their proportion increases from 12.2 percent for STs and SCs, 15.5 percent for Muslims, 20.1 percent for OBCs and 45.2 percent for Others (as of 2004-05).

2.47 As our work progressed, what we have found, from the point of the working population, is the emergence of a new dualism in terms of informal and formal economies that basically connotes the quality of work. The unique Indian characteristic in this new dualism is what we have called systemic and hierarchical segmentation reflecting the hierarchically stratified nature of the Indian society. While the democratic polity seems to have contributed to a widening of the space for political inclusion, the concomitant process of economic inclusion is, it seems to us, way behind.

The Informal Workers

2.48 The workers in the informal economy are clearly the overwhelming proportion of the workforce and most of these (except a stratum at the top) suffer from various forms of insecurities and vulnerabilities. It follows that policies have to focus on improving

their conditions. However, the extent to which policy should focus upon increasing the share of the workforce in the organized sector has been a matter of some debate.

2.49 The two major reports on employment creation (Planning Commission 2001, 2002a) have both considered the burden of employment expansion that could fall on the organised sector. Both reports reject the possibility of a net expansion of employment in the public sector (although the Special Group does project an increase in public sector employment in some sectors such as social services). Given the size of the private organized sector in the EMI estimates, both reports concur that even with very significant rates of growth in this sector (10-15 percent), the burden of employment would still be on the informal sector. But these two reports differ significantly in their emphasis on the formal/organized sector. The Task Force focused on policy reform (in the shape of labour reform) which could improve the growth of employment in the organized sector, drawing criticism from the Special Group which has argued that policies need to focus on the unorganized sector since this sector will necessarily take up the burden of additional employment. This is an approach which this Commission accepts, but with some differences.

2.50 As explained earlier, our base level scenarios are different from those used in the two reports since we have used direct estimates of the organized sector. According to our estimates, the non-agricultural private and public organized sectors constitute 7.2 percent and 5.21 percent of the total workforce (together 12.4 percent) respectively in 2004-05. But when we consider the formal workers in the organized non-agricultural sector, the picture changes. Formal workers in the organized private sector constituted 2.43 percent of the workforce, while formal workers in the public sector constituted 4.33 percent of the workforce in 2004-05. Moreover, between 1999-00 and 2004-05, while total formal/organized sector employment increased, we note that the rate of increase in *organised sector* employment is still less than *unorganized sector* employment in the industry and services sectors and that the share of informal sector

employment in these sectors has increased. Further, there was not much increase in the share of formal employment, which declined as a percentage of the workforce.

2.51 The bulk of organised sector employment is paid employment, consisting of regular/salaried workers and casual workers. The bulk of unorganised sector employment is self-employment, followed by casual employment generally conceded to be of poor quality. Since the proportion of employment in the informal sector in industry and services is increasing, this has an implication for the overall quality of employment in these sectors (the agricultural sector being largely informal in any case).

2.52 An important issue is whether the organized sector produces better quality employment, even if such employment is informal. In the Report on Conditions of Work, we have analysed these issues in great detail.

2.53 As far as casual workers are concerned, we find no difference in their wages and working conditions regardless whether they are engaged in the organized sector or the unorganised sector. There is also a sharp distinction between the daily earnings of informal regular workers and the formal workers in the organised sectors, with the earnings of former being significantly lower. In fact, the informalisation of employment that has occurred in the organized sector has taken place principally due to changes in the employment conditions of regular workers and has resulted in a *decline* in daily wages of regular workers in many sectors.

2.54 However, it may be argued that since wages of (informal) regular workers is higher than that of casual workers, and since the organized sector employs a higher proportion of regular workers, this composition effect still implies an improvement in the quality of employment in the workforce.

2.55 The Commission's Report on Conditions of Work has also examined the attributes of different types of workers, including regular and casual as well

as formal and informal. We have found that these workers are segmented in different sectors (agricultural-nonagricultural) and types of work depending upon their levels of education, their asset status, and social identity. A higher level of education and skills increases the probability of a worker being engaged as a regular worker, and in the organized sector. In other words, it is expected regular workers in the organised sector get a premium on account of their education and skills, but the results show that this premium is considerably reduced due to their informal work status. We have already noted that these workers have neither job security nor social security. From time to time, other studies have brought out various other concerns regarding their working conditions. Thus from the point of view of improved well being we are justified in focusing on the issue of informal work status in the organized sector.

2.56 Our main focus, however, is the poorer informal workers in the informal or unorganized sector. We have shown the conditions of work of these workers, focusing on the changes that have taken place in the recent period, on the segmentation of workers, and the conditions of the disadvantaged workers (migrants, women workers, child labourers, bonded labourers). Based on computational amenability of statistics relating to the informal sector, it is reasonable to take informal sector as a good proxy for informality in the economy. Conversely, we take the formal sector as a good proxy for the formal economy. Such a division gives us (see Box 2.1) the characteristics of these two sectors and their inequality ratios that sums up the extent of dualism in the Indian economy.

2.57 Thus, this Commission's focus is the universe of informal workers, both in the unorganized and organized sectors. We however recognize that there are many segments of these workers, but while attempting to understand the reasons of such segmentation, we have focused on the more vulnerable and poorer of these segments. This universe (of informal workers) has grown in absolute numbers as well a share of the total workforce and the Commission's recommendations are designed to cover this group of workers.

The Approach of NCEUS

2.58 The structure of an economy determines to a large extent economic performance, including volume and nature of employment, growth and inflation. There cannot be any general policy that affects all sectors and classes equally in the same direction. Policy is always specific with differential sectoral, structural and distributional implications. In an unequal society like India, a general policy of growth and employment would create winners and losers; some industries would prosper while others would be left behind; some workers may face better prospects while others remain unemployed or underemployed. Any general policy of development will favour the already better off sectors, regions and workers. Growth is never equally shared in an unequal society; not much trickles down in real life i.e. when it does it is at a snail's pace. All policy analysis accordingly would involve normative judgment as to who the policy is trying to benefit. For example, the mainstream solution of unemployment is to accelerate investment via incentives such as tax breaks and cut interest rates and increase effective demands via tax cut, unemployment insurance or some other forms of spending. Realizing implicitly that such an approach would leave many behind, it is recommended to save them from drowning via safety nets that is a form of income transfer. Growth through investment incentives *inter alia* increases capital's share of national income as well as wage differential between organized and unorganized labour i.e. between formal and informal work. Such accentuation of inequality can only be precluded if the unemployed and the working poor are targeted directly through public works programmes, with the state acting as employer of last resort (ELR). It would amount to extension and expansion of NREGA to all over the country, urban and rural, and for all those seeking employment. Such immediate tackling of unemployment would more than pay for its cost. It is well known that one per cent point reduction of unemployment increases GDP by nearly three per cent points (Okun's Law). In fact, it is the illegitimate inversion of this law by the mainstream economic policy advisers that calls for accelerated growth for solving unemployment problem. It is the bubble up approach and not trickle down one that is required here.

Box 2.1**The Sharp Divide between Informality and Formality as Revealed by Sectoral Statistics, 2004-05**

This box encapsulates the dualism in India's economy in terms of its formal and informal segments. What emerges is the structural weakness of the informal sector in terms of, education (I), productivity (F) and wages (G). These weaknesses are reflected in such outcomes as the incidence of absolute poverty. But the ground reality is that India's large economy is dominated by a very large number and share of very small units (A) that provide employment to 86 percent of its workforce but more so for the women workers (B). Yet this sector contributes to half the national income of the country (E). The inequalities arising out of this gap should come as an eye opener. For example, for every enterprise in the formal sector of industry there are nearly 15 in the informal or unorganised sector. Similarly, for every formal sector worker there are more than 6 workers in the informal sector and this rises to more than 10 for women.

Category	Informal Sector	Formal Sector	Inequality Ratio [(2)/(3)]
1	2	3	4
A. Percentage Distribution of Economic Units (Enterprises)			
Total Non-Farm Enterprises (excluding crop cultivation)	89.1	10.1	8.82
Agriculture (excluding crop)	96.2	7.8	12.33
Industry	93.7	6.3	14.87
Services	85.8	14.2	6.04
B. Percentage Distribution of Workers by Male and Female			
Total Worker	86.3	13.7	6.30
Total Male Worker	84.0	16.0	5.25
Total Female Worker	91.3	8.7	10.49
C. Percentage Distribution of Workers by Activity Status			
Casual Workers	89.1	10.9	8.17
Regular Salaried/wage Workers	37.9	62.1	0.61
Self-employed	98.0	2.0	49.00
D. Percentage Distribution of Workers by Sector			
Agriculture	97.7	2.3	42.48
Industry	70.4	29.6	2.38
Services	72.4	27.6	2.62
E. Percentage Distribution of Gross Domestic Product (GDP)			
Total GDP	50.0	50.0	1.00
GDP from Agriculture	94.5	5.5	17.18
GDP from Industry	28.9	71.1	0.41
GDP from Services	45.3	54.7	0.83
F. Sectoral Product per Worker (Ratio)			
Total	0.58	3.65	0.16
Agriculture	0.98	2.39	0.41
Industry	0.41	2.40	0.17
Services	0.63	1.90	0.33

G. Wages of Casual Workers (Rs. per day)			
Male Workers	51.3	73.0	0.70
Female Workers	32.4	47.4	0.68
H. Incidence of Poverty			
All Worker Households	20.5	11.3	1.81
All Rural Workers	19.3	12.0	1.61
All Urban Workers	25.5	10.7	2.38
I. Level of Education (Mean years of schooling of non-agriculture workers)			
Rural Male	5.1	7.6	0.67
Rural Female	2.9	5.7	0.51
Urban Male	7.0	10.1	0.69
Urban Female	4.7	10.1	0.47

Source: Estimated by NCEUS based on NSS 61st Round, Economic Censuses 2005 and national income data.

2.59 It is this perspective that has guided the work of this Commission to adopt a targeted approach to the problems and challenges of the informal economy and argue for a series of concerted measures to level up. By this way, the unutilized and under-utilized labour can be harnessed to enhance productivity in activities where it is abysmally low and create conditions for decent employment. At the macro level it would result in enhancing effective demand from segments of the population whose even basic requirements are not adequately met that would be truly inclusive. At the level of individuals and households, it would give them a life of dignity, with decent employment with all its attendant attributes of income and social security.

2.60 In the Commission's view, the dualistic nature of the Indian economy has significantly moved away from the textbook division of agriculture and non-agriculture (often referred to as traditional and modern) sectors and has been replaced by the informal and formal dichotomy, cutting across the sectors. The challenge is to transform the informal sector and reduce the gap between the formal and informal. That calls for a conscious strategy of 'levelling up' the informal sector rather than 'levelling down' the formal sector; a bubble up approach rather than trickle down approach. This has been the historical experience of the now developed countries that enjoy high levels of income and human development. Public policies and instruments are therefore required to be shaped and tuned for such a process of 'levelling up'.

2.61 Our recommendations are predicated on the assumption that the foundational requirements for such a levelling up will not only be taken up as a matter of primary obligation of a democratic state towards its citizens but also implement them effectively in a time-bound manner. These relate to food security (e.g. Public Distribution System/Mid Day Meals for school-going children), health care (e.g. strengthening Primary Health Care Centres), access to schooling (e.g. the constitutional aim of universal elementary education) and housing. Based on this assumption, the Commission has examined the twin issues of conditions of work and promotion of livelihood in the light of the high congruence between the informal economy and the poor and vulnerable in India.

The operational part of the strategy of levelling up, in our view, is to create a social floor and nobody is allowed to fall below that level as a matter of social priority and a bottom line of our developmental programmes.

2.62 The three pillars of the social floor envisaged by the Commission relate to universal minimum social security, setting a statutory National Minimum Wage and minimum conditions of work (for paid workers).

2.63 On the issue of social security, the Commission has taken the position that a minimum level of social security should be an entitlement backed by national legislation. The proposals of the Commission have been examined by the government and a national legislation

has been adopted (Social Security for Unorganised Workers Act 2008). This legislation falls short of giving an entitlement of social security to all eligible unorganized workers as recommended by the Commission, although it represents a significant recognition of the principle advocated by the Commission. We believe that the process has only begun and it will be taken to its logical conclusion of universal social security.

2.64 The issue of ensuring minimum conditions of work for all paid workers has been examined by this Commission in its Report on Conditions of Work. The recognition of the need to ensure socially acceptable conditions of work is based on the basic principles of moral philosophy and human dignity and rights, which have also been adopted as international covenants by bodies such as the International Labour Organisation and others concerned with human rights and development. In practice they have been followed at varying pace in different countries dictated by, among other things, social norms and the resultant national ethos governing development and human dignity. In India the basic principles governing state policy as enshrined in the Constitution, directly or implicitly, ask for ensuring these conditions for all workers. They have also been put in practice by passing several legislations prescribing the principles and procedures to be followed by enterprises in the employment of workers. Some of them apply to all workers but most cover only the workers in larger enterprises, namely, those employing more than a certain number of workers. In view of the fact that the conditions of work prevailing in the unorganised sector are found to violate some of the basic tenets of human dignity, these assumptions have been examined by us for their validity and for finding ways of ensuring the minimum standards at workplace for all the workers. We need to add that there are also strong economic arguments for ensuring minimum conditions of work as these are consistent with higher productivity, growth and economic development.

2.65 The Commission is of the clear view that minimum wages will have a positive impact both on employment and on growth of the Indian economy and will also be conducive to reducing poverty. It has, thus, recommended the introduction of a National Minimum Wage with statutory backing which shall

represent the lowest level of wage for any employment in the country. This wage shall be applicable to all employments presently not covered under the Minimum Wages Act of the state concerned, and would be applicable to both wage workers and homeworkers. Even with respect to the employments covered under the Minimum Wages Act, the state government has to ensure that the Minimum Wage fixed under the Minimum Wages Act, is not lower than the National Minimum Wage. In case the prescribed Minimum Wage under the Minimum Wages Act is lower than the National Minimum Wage, the state government shall immediately amend the prescribed Minimum Wage, to bring it in conformity with the National Minimum Wage. The general principles in the fixation of the National Minimum Wage will be the minimum basic needs of the wage worker and the homemaker and his/her family. The Commission has examined and elaborated on the relevant principles which should go into the fixation of the national minimum wage as well as the modalities for doing so in its Report on Conditions of Work.

2.66 The Commission has also examined the conditions of different groups of workers in the labour market who are subject to discriminatory practices and exceptional disadvantages which are justified on different grounds such as dexterity or differentials in productivity. The Commission has rejected these arguments and has taken the view that the existence of social discrimination and social segmentation, along with the existence of unacceptable forms of work such as child labour and forced labour militates against growth and development, and that it is the duty of the State to ensure that the grounds for such treatment are demolished.

We have proposed two legislations covering agricultural and non-agricultural workers, which provide minimum conditions of work to all paid workers including home workers and which, if implemented, should go a long way in establishing minimum conditions of work for paid workers.

2.67 Finally the issue of a social floor is related to issues related to expanding employment and employability and this is the subject matter of an agenda for livelihood

promotion. Given the breadth and complexity of these set of issues, these were discussed in the Report on Conditions of Work. Credit and financing related issues were the subject matter of two subsequent reports and another report dealt with the livelihood promotion of marginal and small farmers. The second part of this report develops this agenda further.

2.68 The Commission recognizes that livelihood promotion is the only sustainable route through which we can deal with the issues of conditions of work and related aspects of poverty and vulnerability of those who are called the self-employed. The reality of the self-employed varies from sector to sector, and depends on factors such as size of enterprise and capital invested. At the margin, their conditions of work are similar to the wage workers, and they strive to make a meagre income by 'self exploitation' through lengthening the working day. For the wage workers, too, especially those working in the unorganised sector, the conditions of work can not be divorced from the conditions of the small enterprises (usually run by the self-employed) in which they are employed. Hence, the promotion of livelihoods and the growth of enterprises have relevance for them as well.

2.69 The fact that the self-employed form the majority of workers in the Indian economy has not, so we feel, sufficiently dawned in the popular consciousness. In agriculture, the self-employed are the farmers who constitute 64 per cent of the total agricultural workers. Within the category of farmers, 84 per cent are marginal or small farmers. Outside agriculture, the self-employed constitute around 63 per cent in the unorganised sector. This includes the own account workers, assisted by the family workers (also referred to as unpaid) and those who employ one to nine workers.

2.70 Livelihood issues are also related to one's capabilities, access to assets and entitlements as well as opportunities for income generation. We have referred to this in our various reports and have highlighted the need for public policy to focus on provision of basic education, health, housing, basic amenities etc. We have also outlined measures that need to be taken in these areas in the context of the present economic crisis (NCEUS 2008c). But we have not been able to consider

the detailed steps needed to ensure that the basic entitlements of citizens are met.

2.71 The Commission's approach to livelihood promotion of the unorganized workers leads to a consideration of a very different type of strategy than what is currently employed. We argue for a strategy which focuses on the promotion of the unorganized sector enterprises in agriculture and non-agriculture. This strategy requires a strong supportive role of the state, and a pattern of expenditure and investment which supports the informal economy. We have proposed higher investments/expenditure on social security, employment generation, agriculture (focusing on marginal-small farmers), microenterprise support and skill development, among other areas. Our approach also calls for higher expenditure on basic education, health and public housing. This would require a reprioritization of existing pattern of revenue realization and taxes. In this era of globalisation driven by the ideology of economic liberalisation, the state is under some compulsion to support the needs of large capital, often ignoring the real needs of the economy. This has resulted in the pattern of unequal growth and the implications for the working poor that we have observed in our previous work. The economic crisis has reinforced the many recommendations of this Commission for a reallocation of expenditure and has given us added rationale to implement a strategy which can strengthen the informal economy.

Commission's Approach in this Report

2.72 The disconnect between growth and employment that we have observed convinces us that our strategy of development has to focus on an employment centred strategy in both its dimensions of quality and quantity. Once the problem is approached in this fashion, the transformation of the informal economy becomes a key issue.

2.73 The quantitative dimensions of the problem of employment have been the subject of debate, sometimes with disagreements even within the same institution, as shown in the divergence of views between the Planning Commission's Task Force and its Special Group. In our previous reports, we have used a consistent set of definitions to estimate the size of the informal or

unorganized sector and of informal or unorganized employment in India. This, and our detailed analysis of conditions of work, has led to a resurgence of interest in scholars, civil society actors and policy makers in the quality of employment.

2.74 Our work so far has principally been based on the concept of Usual Status employment. This concept tends to overstate employment and understate unemployment. It also does not provide a handle with which we can estimate underemployment. In this report we have used an alternative concept of employment, called the Modified Current Weekly Status (MCWS). The MCWS allows total employment to be partitioned between persons with different types of employment profiles, and uses a different and somewhat more stringent condition of defining an employed person. Using this concept as an alternative, we have examined growth rates in employment and have made an assessment of future employment creation requirements.

2.75 These requirements are naturally based on estimates of workers who are likely to come into the labour force (the supply side). The Commission has projected labour force growth in the different states over the 11th and 12th Plan periods. It has also analysed the changing characteristics of the labour force in the coming years. The combination of high growth of labour force; its structurally weak characteristics, especially in terms of education and skill endowments; and low rates of growth and industrialization shows that the major developmental challenge is concentrated in a few populous and slow growing states. This leads us to examine the need for strengthening skills of the informal sector workers (which would include a package of literacy, numeracy, soft skills and vocational //skills) from the point of view of informal workers and from a regional and sectoral perspective.

2.76 The agricultural sector is the largest employer, employing more than half the workforce but low productivity in the sector has made workers exit from agriculture highly desirable from a policy perspective. In fact there is a serious problem of low incomes for farmers with small landholdings and several factors, including a low level of public support in the 1990s has exacerbated

their problems. There is still a considerable productivity gap with respect to small holdings which can be reduced. Other important issues involve addressing gender issues in agriculture and removing constraints on female farmers to undertake farming. Most significantly, this Commission has shown that over the years, marginal-small farmers have become far more predominant in Indian agriculture comprising 84 percent of all farmers and producing half the agricultural output currently. We have recommended a number of steps to strengthen the small farm economy while simultaneously also equipping these farmers and their family members to move out of agriculture on favourable terms.

2.77 The remaining informal employment is in industry, trade and services. The expansion of employment in each of these sectors is presented with considerable challenges in the present context, which we have briefly discussed in the Report on Conditions of Work. We have extended our analysis of two of these sectors (manufacturing and services) using the NSS surveys on these sectors. However, we have then gone on to focus on the unorganized manufacturing sector which employs 27.8 percent of the non-agricultural unorganized sector.

2.78 This report extends the analysis carried out in the Report on Conditions of Work by a detailed analysis and assessment of the constraints and challenges faced by the non-farm micro enterprise sector called enterprises in the informal sector. This sector contributes to nearly 31.0 percent of total employment and 36.0 percent of total informal sector employment in the economy. Its share in the GDP is around 30 percent. These two basic statistics should suffice to recognize the important role played by this enterprise sector in the economy. Our analysis has brought out there are three distinct sub-categories within this sector; the first is the self-employed without hiring any workers and operating with or without the assistance of family members, the second is the establishments who hire upto five workers and the third those hiring upto 9 workers. Such a gradation is also closely associated with capital investment, value addition and labour productivity i.e. the smaller the employment size the lower the value of these parameters. We then take up the most critical issue of the almost complete lack of access to credit by this sector and recall our

recommendations for the creation of a development agency for refinancing and other developmental interventions (for details see, NCEUS 2007b). This is followed by a discussion on the constraints of limited access to technology, marketing and raw materials. Finally, this report elaborates on the Commission's proposal for Growth Poles for the Unorganised Sector, which is aimed at taking existing cluster development strategies to the next, higher level.

Concluding Note

2.79 This is the final report of this Commission. Given the size and heterogeneity of the unorganized sector and the changing nature of the issues confronting it, we have been aware since the very beginning that our contribution would be limited in coverage and scope, leaving an unfinished agenda, which no doubt will be taken up by others in the very near future.

2.80 Beginning with an identification of the nature and magnitude of the issues involved in mainstreaming development in a predominantly informal economy, we have adopted a definite three-pillared approach. Based on this approach we have made specific recommendations with respect to social security, conditions of work, and promotion of livelihoods. Our approach can be encapsulated as a strategy to expand employment (its quality and quantity) with the creation of a social floor as the first developmental priority. As we have pointed out in the preceding paras, this requires the state to reorient itself, in terms of its investment priorities, policies, programmes and institutions. More than that, it requires a more organised working class and vigilant civil society which can monitor developments and pressurize often unwilling state actors to move on a path of inclusive development.

Appendix 2.1: Employment in the Public & Private Sector by Industry (million persons as on 31 March)

Year	Public Sector				Private Sector				Grand Total
	Agri-culture	Industry	Services	Total	Agri-culture	Industry	Services	Total	
1983	0.48	4.36	11.62	16.46	0.85	4.88	1.82	7.55	24.01
1984	0.49	4.50	11.88	16.87	0.82	4.69	1.84	7.35	24.22
1985	0.50	4.64	12.13	17.27	0.81	4.64	1.86	7.31	24.58
1986	0.53	4.75	12.41	17.68	0.82	4.67	1.88	7.37	25.06
1987	0.56	4.78	12.69	18.02	0.85	4.60	1.92	7.36	25.39
1988	0.55	4.89	12.88	18.32	0.84	4.58	1.97	7.39	25.71
1989	0.56	4.83	13.06	18.45	0.87	4.59	2.00	7.46	25.90
1990	0.55	4.87	13.35	18.76	0.88	4.69	2.04	7.61	26.37
1991	0.56	4.91	13.60	19.06	0.89	4.69	2.09	7.68	26.74
1992	0.57	4.92	13.72	19.21	0.91	4.79	2.14	7.85	27.06
1993	0.56	4.93	13.83	19.33	0.92	4.75	2.18	7.85	27.18
1994	0.55	4.90	14.00	19.45	0.88	4.82	2.23	7.93	27.38
1995	0.54	4.87	14.06	19.47	0.89	4.90	2.26	8.06	27.52
1996	0.54	4.84	14.05	19.43	0.92	5.25	2.34	8.51	27.94
1997	0.53	4.73	14.30	19.56	0.91	5.43	2.35	8.68	28.24
1998	0.53	4.62	14.27	19.42	0.90	5.44	2.40	8.75	28.17
1999	0.52	4.56	14.34	19.42	0.87	5.38	2.45	8.70	28.11
2000	0.51	4.49	14.31	19.31	0.90	5.26	2.48	8.65	27.96
2001	0.50	4.32	14.32	19.14	0.93	5.20	2.52	8.65	27.79
2002	0.48	4.16	14.13	18.77	0.86	5.03	2.54	8.43	27.21
2003	0.51	3.97	14.11	18.58	0.90	4.90	2.62	8.42	27.00
2004	0.49	4.03	13.68	18.20	0.92	4.65	2.68	8.25	26.44
2005	0.50	3.91	13.59	18.00	0.98	4.67	2.81	8.45	26.45
2006	0.47	3.98	13.42	17.87	1.03	4.74	3.00	8.77	26.64

Source : Ministry of Labour & Employment (DGE&T).

3

Employment & Unemployment in India : Alternative Measures & their Meaning

Introduction

3.1 In Chapter 2, we have seen how employment has emerged as a major challenge for realising the goal of inclusive development, not just growth, in India. The employment elasticity with respect to growth has declined over the years for the economy as a whole and was almost nil for the organised manufacturing sector. The high aggregate growth has, however, compensated it to some extent. Given the emerging slow down in the Indian economy and the yet unfathomed consequences of the recession in industrialised countries, it is quite possible that the growth rate might slip back to around 6 percent per annum and even lower for the next few years unless decisive policies are taken to expand the domestic market especially that of the low income segment.

3.2 It is the view of this Commission that the employment challenge has to transcend discussions based on economy-wide aggregate variables and focus on the segments of the labour force who lack (a) adequate employment and, (b) who lack adequate income to overcome conditions of poverty and vulnerability even when they are

employed. We discussed the latter comprehensively and elaborately from an informal economy perspective in our *Report on Conditions of Work and Promotion of Livelihoods* (NCEUS 2007a).

3.3 This chapter attempts to address the issues involved in terms of quantitative indicators of the employment and unemployment situation in the country. At the outset, it must be pointed out that the critical constraint in monitoring the macro economic performance of the Indian economy is the non-availability of an annual series on employment and unemployment. This glaring gap is all the more striking when we consider the availability of reliable data on most other macro economic aggregates, some of which are available on a quarterly/monthly or even weekly basis e.g. GDP, savings, investment, inflation, money supply, exports, imports, foreign exchange reserves, external debt and so on. Data on employment and unemployment collected by the National Sample Survey Organisation's (NSSO) through annual surveys are not considered comparable because of the thin sample size, more importantly, due to the use of sampling frames not related to

the population. We are therefore compelled to make use of the by far most reliable data i.e. the quinquennial surveys on employment and unemployment carried out by the NSSO.

3.4 While examining the quantitative dimensions of employment and unemployment in India, the Commission finds that the estimates are sensitive to the concepts and decision rules applied. Such differences are mostly a reflection of the state of a largely poor rural economy characterised by the relatively low levels of human development co-existing with a less poor urban economy with high levels of human development and regular employment for a small segment of the labour force. It is in this context that we have argued for a more robust measure of employment based on intensity of work. This has led us to a nuanced understanding of the nature of unemployment including the absence of a level of earnings that should, at the least, cover the expenditure required for crossing the low level of official poverty line. In our earlier report (NCEUS 2007a), we have argued that the official poverty line does not consider the degree of vulnerability of the households and that overcoming their vulnerability would require, from an income point of view, at least doubling of the official poverty line.

3.5 While the chapter largely deals with the quantitative dimensions, the findings provide the basis for subsequent discussions on the quality of employment especially with regard to the provision of public employment opportunities as well as protective measures (such as social security, minimum conditions of work and minimum wages) for the wage employed. It will also tie up with the discussion on promoting self employment as well as providing greater access to capital as well as other critical inputs and favourable policy environment for transforming the large segment of micro enterprises into efficient units of production.

Measures of Employment/Unemployment : Sensitivity to Concepts & Definitions Used

3.6 The Labour Force Participation Rate (LFPR), Work Participation Rate (WPR) and Unemployment Rate are a few of the major indicators generally being used to assess labour market conditions. The LFPR is obtained

by dividing the number of persons in the labour force with the total population. WPR, on the other hand, is obtained by dividing the number of persons in the work force with total population. The unemployment rate is obtained by dividing the number of those unemployed with the total number of persons in the labour force.

3.7 The decision rule by which a person is classified as belonging to labour force, work force and unemployment categories is crucial in all the above measurements. The concepts/procedures presently being used in India for the classification are:

- Usual Principal Status (UPS)
- Usual Principal and Subsidiary Status (UPSS)
- Current Weekly Status (CWS)
- Current Daily Status (CDS)

3.8 *Usual Principal Status:* For several purposes, we need to relate social and economic variables to the enduring characteristics of the population and labour force. The labour force, in this context, is typically measured through the usual principal activity status (UPS) which reflects the status of an individual during a reference period of one year. Thus, a person is classified as belonging to labour force, if s/he had been either working or looking for work during longer part of the 365 days preceding the survey. The UPS measure excludes from the labour force all those who are employed and/or unemployed for a total of less than six months. Therefore, persons who work intermittently, either because of the pattern of work in the household farm/enterprise or due to economic compulsions and other reasons, would not be included in the labour force unless their days at work and unemployment totalled half of the reference year.

3.9 *Usual Principal and Subsidiary Status:* The Usual Principal and Subsidiary Status (UPSS) concept was introduced to widen the UPS concept to include even those who were outside the labour force on the basis of the majority time criterion but had been employed during some part of the year on a usual basis. In the NSS 61st Round Survey (NSSO 2006a), all those who were either un-employed or out of labour force but had worked for at least 30 days over the reference year were treated as

subsidiary status workers and hence included in the labour force. UPSS is, thus, a hybrid concept incorporating both the major time criterion and priority to work status.

3.10 The UPSS measure was used on the ground that it was stable and inclusive: it is related to a picture emerging from a long reference period, and even those working for 30 days or more, but not working for the major part of the year, were included.¹

3.11 By including as workers those outside the UPS labour force but had worked for 30 days or more, the UPSS estimates of labour force (which included some of the UPS unemployed and those outside the labour force) exceeded the corresponding UPS estimates by 42.8 million in 2004-05 or 10.1 percent higher than the latter. However, the number of unemployed reduced and their share in the expanded UPSS labour force became much lower.

3.12 It is important to stress the difference between the UPS and UPSS measures as the latter has been used for employment projections in all the recent Plans except the Tenth Plan. The basic issues relating to UPS and UPSS measurements are the following:

- The enduring characteristic sought to be captured in UPS is how a person spends the major part of the year. The UPSS, on the other hand, seeks to place as many persons as possible under the category of employed by assigning priority to work
- While the notion of long term attachment to particular activity status may be a valid generalization, there may be considerable number of persons for whom no single long-term activity status is applicable as they move between statuses over a long period of one year depending on a variety of factors, including cyclical patterns and random events. This possibility is eliminated from our purview when a statistical straight-jacket like UPS or UPSS is applied and a person has to select one and only one status (employed, unemployed,

out of the labour force) as her/his enduring status.

- Usual status requires a recall over a whole year of what the person did. For those in regular employment this is easy to do, but for those who take whatever work opportunities they can find over the year or have prolonged spells out of the labour force, a very complex pattern has to be recalled in order to decide what their usual status is. In this respect, a short reference period of a week has advantages.

3.13 *Current Weekly Status:* The concept of Current Weekly Status (CWS) has been in use in the labour force surveys in India even before 1970, when the recommendations of the Dantwala Committee became available. It was primarily because the agencies like International Labour Organization (ILO) use estimates of employment and unemployment rates based on weekly reference period for international comparisons. In India a person is classified to be in labour force as per CWS if s/he has either worked or is seeking and/or available for work at least for one hour during the reference period of one week preceding the date of survey.

3.14 The CWS participation rates also relate to persons and hence may be roughly compared with those obtained by using UPS and UPSS measurements. However, the reference periods are different and UPS, unlike UPSS and CWS, is based on majority time and does not accord priority to work and unemployment. The classification under CWS is based on the status of persons during the last seven days and priority is assigned to “working” over “not working but seeking or available for work” and to both “working” and “not working but seeking or available for work” over “neither working nor available for work”. The advantage of CWS is that it uses a shorter reference period of seven days and as such recall lapses are expected to be comparatively lower. Further, it facilitates easy classification and analysis by sub-rounds to identify seasonal patterns. The major disadvantage of CWS is that it classifies persons with the nominal work

1 However, those outside the UPS labour force, seeking or available for work for more than 30 days during the preceding 365 days, were not included in the UPSS labour force. The 30 day rule was introduced in the 61st Round. In the earlier Rounds, no such minimum cut off point was prescribed. For strict consistency, all those who were outside the labour force on the basis of UPS, but who were in the labour force on the basis of their subsidiary status, should have been included in the UPSS labour force. If the 30 day cut-off rule was applied it should have been related to labour force participation, not to work participation alone.

of even one hour during the reference week into work force and labour force. Similarly, a person is treated as unemployed only if s/he has been unemployed on all the days on which s/he has been in the labour force.

3.15 *Current Daily Status:* The Dantwala Committee proposed the use of Current Daily Status (CDS) rates for studying intensity of work. These are computed on the basis of the information on employment and unemployment recorded for the 14 half days of the reference week. The employment status during the seven days is recorded in terms of half or full intensities. An hour or more but less than four hours is taken as half intensity and four hours or more is taken as full intensity. An advantage of this approach is that it is based on more complete information; it embodied the time utilisation, and did not accord priority to labour force over outside the labour force or work over unemployment, except in marginal cases. A disadvantage is that it related to person-days, not persons. Hence it had to be used with some caution.

Labour Force Measures Used in Recent Plans

3.16 The Montek Singh Ahluwalia Task Force on Employment Opportunities set up by the Planning Commission, which reported in July 2001, examined estimates of employment and unemployment generated by the National Sample Survey, based on different concepts developed by the Dantwala Committee. All four measures, UPS, UPSS, CWS and CDS were reviewed and the estimates based on all four measures featured in the analysis. It was stated that the CDS measure of unemployment is widely agreed to be the one that most fully captures open unemployment in the country (Planning Commission 2001).

3.17 The projections of the labour force were, however, based on the UPSS concept, perhaps because it related to persons rather than person-day units.

3.18 Immediately after the submission of the above report, the Planning Commission set up the S P Gupta Special Group on Targeting Ten Million Employment Opportunities per Year over the Tenth Plan Period, which

reported in May 2002. The Group took a different view. It argued:

“...the method of estimation of employment and unemployment on the basis of the usual and subsidiary status (UPSS) used during the Ninth Plan formulation would not be of help to get any realistic estimate of the quantum of generating gainful employment in order to fulfil the Tenth Plan targets, especially given the promise for gainful nature of employment, as per the Group’s terms of reference. This is because on the basis of UPSS calculation, the volume of unemployment shown is always under-estimated since it excludes a large number who are significantly under-employed or unemployed over a major part of the referred period” (Planning Commission 2002a). It was therefore decided to switch over to the CDS. The rationale was:

“Hence, we switched over to what is called the Current Daily Status (CDS), which is conveniently one of the other options provided by the National Sample Survey Organisation for measurement of employment and unemployment. If the gainfully employed are defined as those who are near fulltime employed, then the CDS definition on employment given by the NSSO will give more realistic estimate at least directionally. Most countries across the globe use the concept close to weekly status, which again is closer to that of CDS used in this report. Within India almost all other reports from alternate sources agree that the CDS concept of unemployment is the most realistic”².

3.19 This approach was later adopted in the Tenth Plan (Planning Commission 2002b) document for projecting labour force and employment generation. It was justified on the ground that (a) CDS was a better measure than the UPSS to capture unemployment and under-employment and (b) it took into account the seasonal variations as the samples were surveyed uniformly over the year. Our review of these developments brings out the following points:

2 Ibid, p.21.

First, the Special Group is right in stressing that the gainfully employed should be those who are “near fulltime employed.” It does not follow, however, as the Special Group claims, that the CDS definition on employment will give a more realistic estimate at least directionally, because it cannot yield an estimate of *persons* gainfully employed. Under CDS, the basic classificatory unit is a person-day and the status of the same person on all the seven days is recorded. It is thus related to a composite unit of person-day and not to persons or individuals. Aggregates of person-days cannot be readily related to the characteristics of individuals who contribute to it.

Second, the UPSS-based projections may be questioned for using a concept that overstates employment and understates unemployment. Many persons included as workers under UPSS are not really gainfully employed for much of the time.

Third, the argument of the Task Force that “the difference between the unemployment rates on the Current Weekly and that on the Usual Status would provide one measure of seasonal unemployment” is difficult to sustain. The two unemployment rates are based on different labour force denominators, and many reported as working on UPSS might be outside the labour force on CWS. Seasonality in labour force characteristics is better captured by variations in CDS rates over the four sub-rounds.

Requirements of a Good Measure

3.20 The preceding discussion highlights some of the requirements of a good measure as given below:

- A good employment/unemployment measure should be able to depict the baseline situation in a realistic and consistent manner, identifying those individuals who have a substantial attachment to the labour force and who spend a good part of their time at work or remained unemployed.

- In our predominantly rural, agrarian economy, it should enable us to identify patterns of seasonal changes over different parts of the year.
- It should provide a basis for projecting the growth of labour force, employment and unemployment over time and facilitate comparisons with expected employment generation in the economy.

Modified Current Weekly Status (MCWS)

3.21 In both UPSS and CWS, the priority criterion results in overestimation of the labour force and work force. This is because persons who normally remain outside the labour force (work force) most of the time would be included in the labour force (work force) if they spent just above 30 days in a year (UPSS) or one hour in a week (CWS) in an economic activity like gathering of uncultivated crops, collection of firewood, cleaning of household enterprise premises, etc. The UPSS and CWS, as currently used, therefore, have only limited value in estimating trends in employment and unemployment and projecting the labour force.

3.22 It is in this context that the NCEUS commissioned two experts³ with intimate knowledge of the Indian system of labour force surveys to arrive at an indicator that would give a more robust estimate of the employment situation as well as measure the various facets of unemployment in terms of severe unemployment, part-time employment, under-employment (including seasonal) and so on based on the existing data. By suggesting some modification to the computation of the CWS, they have come up with estimates based on what may be called Modified CWS (MCWS). A technical paper prepared for this purpose is given as Annex-3.1 to this Chapter.

3.23 Unlike CWS, the MCWS takes better account of the time disposition of each individual over the 14 half days. It follows a two step procedure. *First*, it assigns individuals to the labour force if the majority of their half-days were in the labour force. *Second*, within the labour force, it uses the majority time principle to classify

3 Professor J. Krishnamurthy, formerly Professor, Delhi School of Economics and Senior Economist, International Labour Office, Geneva and Dr. G. Raveendran, former Additional Director General, Central Statistical Organization, Government of India, New Delhi.

individuals among the two activity statuses, employed and unemployed. Only in a few cases, where the majority time rule does not give a unique solution, the criterion of priority for labour force and employment is invoked.

3.24 The decision whether a person is employed or unemployed, follows the analogy of the usual principal status. Thus a person is *first* classified according to whether or not in the labour force on the basis of majority time, and *then* applied the same majority time criterion to decide whether the person is employed or unemployed. This MCWS procedure has a definite advantage over the CWS as any person classified as employed (or unemployed) would have recorded a significant involvement (at least 2 days) in that activity and at least 3.5 days in the labour force. The concept thus enables to focus on persons with a significant involvement in the labour force and work or unemployed.

Advantages of the MCWS Approach in Labour Force Measurement

3.25 The MCWS participation and unemployment rates, which relate to persons by majority time, are better aggregates of current daily status information. They are based on the actual status of the person during the last seven days and not on a long recall memory of the informant as in the case of UPS and UPSS. They do not classify a person into one of the categories of employed, unemployed and out of labour force on an a priori basis but do so only after ascertaining the daily status on each of the last seven days. The classification errors are, thus, significantly reduced. The unemployment rates estimated by using MCWS would give a better representation of the situation than those based on CWS as the former is on the basis of majority time disposition within the labour force.

3.26 Since MCWS estimates relate to persons, they can be used to project the size and composition of the labour force. They can also be used to examine labour force characteristics, using cross classifications based on individual and household characteristics.

3.27 While the different approaches and the resulting estimates are useful in illuminating different characteristics of labour force participation and utilization, the analysis

based on MCWS would provide the best use of the available detailed information for policy formulation including planning exercises.

3.28 While the Commission is in favour of such a modified approach to the measurement of employment as well as the various dimensions of unemployment, we recognise the prevalence of the UPSS measure in official and scholarly publications. In some cases, as in the case of the Eleventh Five Year Plan, both UPSS and CDS measures have been used. In a sense the time disposition module of the NSSO makes it possible to apply a host of alternative definitions of labour force, employment and unemployment resulting in a family of estimates. The task of the analyst is to select those among these estimates that are best suited to the specific purposes at hand. Accordingly, the Commission prefers to report the family of estimates and look at the differences so as to get an idea of the task involved in planning for employment and taking care of the unemployed.

Measures of Employment & Unemployment

3.29 The Commission finds that determining whether a person is in the labour force or not and also whether s/he is employed or unemployed is sensitive to the concept followed and the decision rule used for measurement. While the UPSS measure emerges as the broadest measurement of labour force participation, the CDS measure emerges as the one which gives the lowest measurement. Given the absolute magnitude of the labour force in the country, it is needless to stress here that the gap is quite significant to the extent of 51.6 million in 2004-05.

3.30 However, the difference in Labour Force Participation rate is quite small for men with only two percentage points while it is as high as 7 percentage points for women (Table 3.1 and Fig. 3.1). This immediately brings into focus the nature of employment of women and their inability as well as absence of adequate opportunities to engage in stable employment not to speak of gainful employment which we shall discuss later. The gap in the case of women is largely, if not totally, due to their subsidiary status that relates to employment only for a part of the year.

3.31 The same pattern is repeated when we examine the work force participation. However, the gap between the UPSS and CDS measure widens to 7 percentage points for all and 9 percentage points for women and 5 for men. Here again the absolute numbers are notable because it comes to 27.9 million men and 46.5 million women.

3.32 Since the MCWS measure is a more robust measure, the Commission would like to point out the

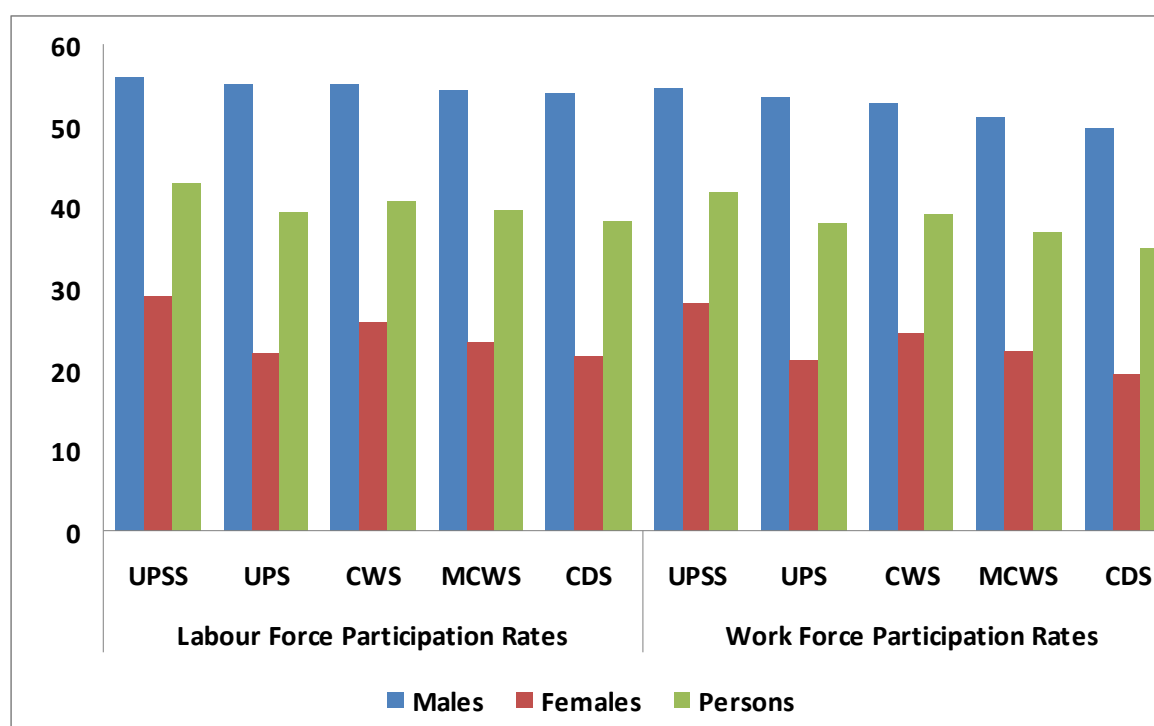
difference between this measure and that of other measures. Estimates based on MCWS are closer to the CDS measure and somewhat higher but lower than other estimates. Given the fact that this measure relates to individuals and not person-days, we would underline the usefulness of this measure as superior to the CDS measure. The differences in terms of absolute magnitudes are given in Table 3.2.

Table.3.1: Labour Force & Work Force Participation Rates under Different Concepts (2004-05)

Category	Labour Force Participation Rates (%)				
	UPSS	UPS	CWS	MCWS	CDS
Males	55.8	55.1	55.0	54.4	53.9
Females	28.8	21.9	25.2	23.3	21.5
Persons	42.8	39.2	40.7	39.5	38.1
Category	Work Force Participation Rates (%)				
	UPSS	UPS	CWS	MCWS	CDS
Males	54.6	53.5	52.7	50.9	49.6
Females	28.0	21.0	23.9	21.6	19.5
Persons	41.8	37.9	38.9	36.8	35.0

Source: NSSO 61st Round Survey on Employment-Unemployment. Computed.

Fig. 3.1: Labour Force & Work Force Participation Rates under Different Concepts (2004-05)



Source: *ibid.*

Table 3.2: Estimates of Labour Force & Work Force (million) under Different Concepts (2004-05)

Category	Labour Force				
	UPSS	UPS	CWS	MCWS	CDS
Males	316.0	311.6	311.2	307.6	304.6
Females	150.8	114.9	131.9	122.3	110.6
Persons	466.8	426.5	443.1	429.9	415.2
	Work Force				
	UPSS	UPS	CWS	MCWS	CDS
Males	308.8	302.8	298.1	287.9	280.9
Females	146.9	110.1	125.3	113.2	100.4
Persons	455.7	412.9	423.4	401.1	381.3
	Difference in relation to UPSS (Labour Force)				
	UPS	CWS	MCWS	CDS	
Males	4.4	4.8	8.4	11.4	
Females	35.9	18.9	28.5	40.2	
Persons	40.3	23.7	36.9	51.6	
	Difference in relation to UPSS (Work force)				
	UPS	CWS	MCWS	CDS	
Males	6.0	10.7	20.9	27.9	
Females	36.9	21.6	33.7	46.5	
Persons	42.9	32.3	54.6	74.4	

Source: *ibid.*

3.33 Similar differences can be observed in the measures of unemployment as well. In symmetry with the fact that UPSS standard provides the broadest measure of labour force and workforce, UPSS standard happens to provide the narrow-most framework for capturing unemployment. Reverse is the case with CDS standards. UPS, CWS and MCWS measures are positioned in between. The unemployment rates captured by UPSS, UPS, CWS, MCWS and CDS measures are 2.4, 3.2, 4.4, 6.7 and 8.2 percent respectively. All the measures report higher unemployment rates for females to males. The difference on account of gender could be seen from Table 3.3.

Measures of Non-utilization of Labour Time

3.34 Examination of the time disposition of persons over the reference week indicates that for many of them time is divided between employment, unemployment and being outside the labour force. This brings into focus the state of unemployment and potential entry into labour force in more than one dimension. We consider this as an important information base for not only understanding the unemployment problem but also planning for tackling it in a manner that would match the ground realities as they are revealed through the NSS surveys. We classify them as (a) Severely

Table.3.3: Unemployment Rates Using Different Concepts (2004-05)

Category	Unemployment Rates (%)				
	UPS	UPSS	CWS	MCWS	CDS
Males	2.8	2.3	4.2	6.4	7.8
Females	4.3	2.6	5.0	7.4	9.2
Persons	3.2	2.4	4.4	6.7	8.2

Source: *ibid.*

unemployed, (b) Part-time workers, (c) Underemployed, and (d) Not Gainfully Employed.

Severely Unemployed

3.35 We could identify as “severely unemployed” (SUE) persons reporting as unemployed for 3.5 days or more, i.e. a half or more of the days in the week. Whatever they may have done for the rest of the week, these are people who have been in the labour market and have clearly not done well. The SUE group is not identical to the MCWS unemployed, but a slightly different sub-set of the MCWS labour force. This is because persons who worked 3.5 days and were unemployed in the remaining 3.5 days would be classified as MCWS workers, but, for our present purpose, they would be classified as SUE, i.e. unemployed for 3.5 days. Further MCWS unemployed would also include those unemployed for a major part of their labour days though less than 3.5 days. To obtain incidence rates, the number of persons unemployed for 3.5 or more days could be divided by either the number in the CWS or in the MCWS labour force, as SUE persons would be members of the labour force under both concepts.

Part-time Workers

3.36 A completely different approach would be to identify persons who worked for 0.5 – 3 days in the week. They may be called part-time workers (PTWs). They might not have been interested in additional work; some might report availability on non-working days while others might not. Also some might not report availability as they were discouraged by their past labour market experiences. The incidence of part-time work is best measured in relation to the CWS work force, for not all part-time workers would be categorized as workers under the MCWS approach, but all of them would be included in the CWS work force, given the priority for work.

3.37 It might be argued that only those part time workers (PTWs) who express interest in undertaking additional work should be considered when formulating employment policies. In practice, some might report non-availability for additional work on account of discouragement resulting from past efforts to find work or due to the weak link with the labour market, especially

among non-wage earners. Hence, estimates of the size and characteristics of PTWs should be analyzed irrespective of their declared intentions regarding availability for additional work. It is quite possible that those who might not be currently interested in seeking employment for a variety of socio-economic reasons might do so when more attractive opportunities are available.

3.38 This group therefore may constitute partly of those who could be called potential entrants into the labour force. The Commission has been witness to such a phenomenon during its visits to several work sites under the National Rural Employment Guarantee Programme (NREGP). Many women reported as not having sought such work in the past for a variety of reasons including low wages, unattractive conditions of work and social stigma of working in another household in the same village. Many women reported their participation in NREGP because, as they put it “*ye tho sarkar ka kam hai*” (“this is government work”)

Underemployed

3.39 In the past, persons employed but interested in additional work were described as the underemployed. Before 1972-73, NSS results provided the current status data on hours worked and hours available. It was possible to identify those who worked for a relatively short time (typically 28 hours or less per week) and were seeking and/or available for work. The latter were described as the underemployed and this practice has been in vogue in several other Asian countries. This is, however, no longer feasible in India as time use is now on a person-day basis, in terms of half days rather than clock time.

3.40 To estimate underemployment, we therefore propose a new measure. We take those who have worked for 3 days or less but more than 0.5 days in the *week and who were unemployed for 0.5 days or more as per CWS* as a proportion to the work force. This will have the effect of excluding those who did not report availability for additional work. The measure of underemployment used here is similar to the earlier one based on the number of persons working 28 hours or less and available for additional work.

3.41 Commission's estimate for the above discussed three crucial aspects of non-utilization of labour time for the year 2004-05 show that there were 28.7 million severely unemployed and 22.6 million part-time workers. They constituted 6.7 percent and 5.3 percent of MCWS and CWS labour force respectively. Only a small proportion of the labour force was underemployed (2.3 percent). The incidence of severely unemployed and part-time workers was relatively higher for females than males. However, the incidence of underemployed high for males. Table 3.4 summaries the findings.

Lack of Gainful Employment/ Under-employment by Level of Earning

3.42 The framework given by the M.L. Dantwala Committee of Experts on Unemployment Estimates for the measurement of labour force, work force and unemployment is based on time utilisation although the participation of persons in the labour force/work force is guided by the level of earning. In other words, the labour force participation rate without specifying the level of wages/earnings is only of limited use. This is one of the major shortcomings of the above framework from which comes the labour statistics in the country.

3.43 The employment-unemployment surveys being conducted by the National Sample Survey Organisation (NSSO) collect wage and salary earnings received or receivable for the work done during the reference week for those employed on a regular or casual basis. These are collected separately for each of the activities pursued by the persons in the sample households. Bonus received

or to be received and perquisites valued at retail prices duly apportioned for the reference week are included in the salary/wages but overtime allowances received or receivable is excluded. The average earning per day can be estimated from these data sets in the case of employees.

3.44 The employees' underemployment by level of earning can be therefore computed by comparing their daily wages with a minimum wage or a standard which is expected or required for sustenance. Based on the data sets of the latest Quinquennial Employment-Unemployment Survey, the percentage of workers receiving an average daily salary/ wage of less than the national minimum wage of Rs. 66 per day has been computed both for casual workers and regular/salaried. It was revealed that about 80 per cent of the casual workers and 31 per cent of the regular salaried/wage workers are under-employed in the sense that they do not receive the minimum daily wage of Rs. 66. The differentials in the case of rural and urban areas and males and females are significantly large. Those casual workers in rural areas, not receiving the minimum daily wage of Rs. 66 was a staggering 84.4 per cent as against 57.2 per cent in the urban areas in 2004-05. Similarly, the proportion of females receiving less than the required minimum was 95.0 per cent as against 74.0 per cent in the case of males. The trend is similar even in the case of regular salaried/wage employed. While the under-employment ratio for rural and urban areas were 41.8 per cent and 25.4 per cent respectively, the same for males and females were 26.2 per cent and 53.7 per cent respectively.

Table 3.4: Persons (million) in different segment of severe unemployment and underemployment, 2004-05

	Male	Female	Total
Severely unemployed *	19.63 [6.38]	9.03 [7.38]	28.65 [6.66]
Part-time Workers @	10.39 [3.49]	12.23 [9.77]	22.63 [5.34]
Underemployed #	6.84 [2.29]	2.74 [2.18]	9.57 [2.26]

Note: * Number of workers who were unemployed for 3.5 days or more in the reference week.

@ Number of persons who worked for 0.5 to 3.0 days during the week.

Number of persons who worked for 0.5 to 3.0 days during the week and reported at least 0.5 days of unemployment

Figures in brackets are percentages to labour/work force. The denominator is MCWS labour force in the case of severely unemployed and in the other two cases the denominator is CWS work force

Source: *ibid.*

3.45 In the case of the self-employed including unpaid family workers, data on earnings/ income were not being collected in the employment – unemployment surveys. This is a serious data gap on labour and employment which are important macro-economic variables. The national statistical system needs to be revamped to bridge this gap in line with the international conventions on labour statistics. The consumer expenditure block in the employment – unemployment survey schedule can be suitably expanded to collect income from self – employment and other sources. Though it may be argued that it is difficult to collect reliable data on income, such data sets could be used for assessing the quality of employment.

The Measurement Used in this Report

3.46 This report uses the measurements based on UPSS and MCWS concepts for analysing the trends in labour force and its projections. Comparative estimates based on both the concepts are presented. The report also uses CWS and CDS measures for assessing seasonality, under-employment, intensity of work, etc wherever such measures are found to be useful.

Policy Implications

3.47 From the foregoing discussion a number of issues emerged, which have implications for policy. First, a measure based on the intensity of work gives a reasonably good measure of the size of the labour force in India. This is closer to the CDS measure but it has the added advantage of depicting the situation of the persons concerned rather than of the person-days as in the case of CDS.

3.48 Second, the estimation of the unemployed and its different manifestations presented here is an improvement over the existing practice of reporting just the unemployment rates for different segments of the labour force. As we have highlighted, there is a segment of the severely unemployed who would be looking for more regular or stable employment. The nature of such employment would vary depending on their educational background and the rural/urban locations.

3.49 Third, the category of part-time workers consists of those who are underemployed in terms of adequacy of work. They included those reporting availability for work (the underemployed) as well as those who have not reported so but may be available for work as we have noted in the case of programmes like the NREGP. Such seekers of public employment programme would include the seasonally unemployed, employed but with very low wages and those who may have opted out of the labour market for various reasons.

3.50 Fourth, the absence of gainful employment among the self employed deserves special attention since they consist of significant segments without adequate income even to cross the official poverty line. All of them are in the informal economy but many of them cannot move into wage employment because of their occupational characteristics. They would include groups such as the artisans as well as those with some capital where they would be able to use the family labour in a convenient location. These are the bottom segments of the micro enterprises sector. They, along with the more productive micro entrepreneurs with hired wage workers, would also need special focus from an employment and growth point of view.

3.51 Fifth, the two vulnerable segments in the labour force i.e. casual wage workers and the majority of the self-employed constitute an overwhelming proportion of the informal sector in the economy. This calls for defining and estimating both the employment and the income pertaining to the informal sector, the results of which the Commission released in an earlier report submitted to the Government (NCEUS 2008a). The fact that the workers and their families in the informal sector warrant certain foundational support systems in terms of enhancing human capabilities as well as protection and promotion as workers was the theme of our earlier four reports (NCEUS 2006, 2007a and b, NCEUS 2008b).

3.52 It is in this background that we present in this report an analysis of the employment situation including the likely scenario in the near future as well as a strategy for employment-oriented development that would enhance both productivity and welfare of the workers in the vast informal economy in India.

4

Labour Supply & Demand : Basic Characteristics of Labour Force & Work Force

Introduction

4.1 We have seen in the last chapter how sensitive is the measurement of the employed and the unemployed (that comprise the labour force) to the definitions and decision rules applied. While we have to reckon with a range of estimates pertaining to a given parameter in the labour force, it is more important to find out the emerging picture with regard to a number of issues on the basis of the past trends. We have chosen to do this by examining the empirical situation for a period of two decades since the early eighties. The Commission believes that such an exercise is critical to an understanding of the challenge of employment in India, especially in a context where economic growth has catapulted to a much higher trajectory than before without commensurate improvement in employment, especially in terms of its quality such as fair wage, decent conditions of work and employment/social security. Our terms of reference to examine the feasibility of an employment strategy that takes into account the nature of and the conditions in the informal economy becomes much more important in view of the magnitude, participation rate, rural/urban distribution, education and the social identity of those in the labour force and workforce in the

informal economy. An added dimension at the current juncture is the likely impact of the global economic crisis on India in terms of the prospect of a slowdown of economic growth and its consequences on the employment situation.

4.2 There is hardly any reason to be sanguine about the size, distribution and participation rate of India's labour force and by implication the composition of the informal economy. While there are some emergent silver lines such as the decline of child labour or a much slower decline in illiteracy, the challenges confronting the country are still formidable. The majority of the labour force is stuck in the rural economy. Their educational levels are much less than even the meagre average in the urban areas. Lack of education afflicts most the labour force coming from the lowest rung of the social hierarchy and women more than men. But the national aggregate data, which is what the policy makers and planners very often rely upon, conceals more than it reveals when it comes to significant regional variations. We have therefore embarked on a regional level exercise, albeit limited, to emphasize the need for understanding and factoring in national policies and planning, the regional profiles of important dimensions of the situation.

4.3 The overall picture that emerges brings into focus the enormity of the task of improving the basic capabilities of the labour force with adequate attention to regional, social and gender dimensions. There is no doubt that a thin layer at the top, urban, male and educated, has acquired capabilities to power a fast growing economy leaving behind a huge mass to eke out a precarious living in the so called informal economy. This calls for a more, not less, nuanced development planning with a long term perspective to provide a stronger foundation for development that would be inclusive.

Population Growth & Composition

4.4 During a period of four decades between 1961 and 2001, India's population more than doubled and currently it would be close to 2.7 times. As we can see from Table 4.1, the annual growth rate achieved during the ten year period from 1991 to 2001 was 1.68% in the case of rural population and 2.77% in the case of urban population. The overall annual growth rate during this period was 1.97%. The average annual growth of population during the four decades since 1961 was 2.15 percent.

4.5 While a discernible demographic transition may be taking place in India in recent times, the pace is quite slow for the country as a whole. The growth of population has been decelerating over the decades, a trend more pronounced in the last decade 1991-2001. The share of urban areas in the total population has been, however, increasing at an average rate of about 2.5 percentage points in every ten years since 1961.

4.6 While several factors affect labour force participation rates, they are largely determined by the working age population. It is also important as a demand side variable in view of the need for adhering to statutory requirements and international standards of work ethics. Persons in the age group of 15-59 years constitute the working age population in the context of India. It was 234.1 million in 1961, constituting about 53.3 percent of the total population. By 2001, the working age population increased to 585.6 million, raising its share to 56.9 percent of the total population. This is the result of a demographic transition over the last four decades. The increase was more pronounced in urban areas as the share of working age population rose from 56.3 percent in 1961 to 62.4 percent in 2001, an increase of 6.1 percentage points. In the case of rural population, the increase in the working age population was only 2.2 percentage points, from 52.6 percent in 1961 to 54.8 percent in 2001. The overall growth rate in the working age population since 1961 was 2.32 percent per annum as against a growth rate of 2.15 percent in the total population during the same period.

Trends in Size & Composition of Labour Force

4.7 The size and composition of labour force and the changes taking place therein over the years are important parameters to be considered in the formulation of employment policies and strategies. These have been estimated on the basis of Quinquennial Employment – Unemployment Surveys undertaken by the National

Table 4.1: Size & Growth of Population Since 1961

Sector	Population (Million)				
	1961	1971	1981	1991	2001
Rural	360.3	439.08 (2.00)	524.11 (1.79)	628.19 (1.84)	742.49 (1.68)
Urban	78.9	109.08 (3.29)	159.22 (3.85)	217.61 (3.17)	286.12 (2.77)
Total	439.2	548.16 (2.24)	683.33 (2.23)	846.30 (2.16)	1028.61 (1.97)

Note: Figures in brackets indicate average annual rates of growth.

Source: Population census of India

Sample Survey Organization (NSSO) in 1983, 1993-94, 1999-2000 and 2004-05 after adjusting for state-wise and segment-wise population projections. The measure used here relates to UPSS. The estimates relating to 1999-2000 are considered to be not fully consistent¹ with those relating to the other years and hence not included in most of the analysis in this chapter.

Overall Size, Growth & Composition

4.8 The labour force has been growing *pari passu* with the growth of population over the years. The size and growth of labour force by sector and sex is given in Table 4.2 and the corresponding percentage shares are given in Table 4.3. The total labour force of about 307.4 million in 1983 increased to about 379.9 million in 1993-94 and then to about 466.8 million in 2004-05. The net addition to the labour force during the first period from 1983 to 1993-94 was 72.5 million over a period of 10.5 years (or an average annual addition of 6.9 million), while during the second period of 11 years from 1993-94 to 2004-05, it was about 86.9 million (or an average annual addition of 7.9 million).

4.9 In both the rural and urban areas, the average annual addition to labour force during the second period (1993-94 to 2004-05) was higher than in the first period (1983 to 1993-94). It increased from 4.6 million to 4.8 million in the rural areas. Although the net annual addition of labour force was lower in urban areas as compared to in rural areas, the increase was much higher in urban areas (2.3 million in the first period and 3.1 million in the second period).

4.10 Annual addition of the male labour force is higher than of the female labour force, the increase in annual addition was higher for females than for males. The rural-urban differential in this respect is stark. For instance, in urban areas, the annual addition to labour force has increased in the case of both the sexes between the two periods, more so for males (1.7 million to 2.4 million for males as against 0.5 million to 0.7 million for females). In contrast, the annual addition to the female labour force in rural areas has increased in the second period (1.3 million to 1.9 million), while it has declined in the case of male labour force (3.3million to 2.9 million).

Table 4.2: Size & Growth of Labour Force by Sector & Sex

Sector/sex	Labour Force (Million)			Average Annual Additions (Million)		
	1983	1993-94	2004-05	1983 to 93-94	1993-94 to 04-05	1983 to 04-05
Rural Males	155.2	190.0	222.0	3.3	2.9	3.1
Rural Females	90.4	104.4	125.1	1.3	1.9	1.6
Rural Persons	245.6	294.4	347.1	4.6	4.8	4.7
Urban Males	49.2	67.3	94.0	1.7	2.4	2.1
Urban Females	12.6	18.2	25.7	0.5	0.7	0.6
Urban Persons	61.8	85.5	119.7	2.3	3.1	2.7
Total Males	204.4	257.3	316	5.0	5.3	5.2
Total Females	103.0	122.6	150.8	1.9	2.6	2.2
Total Persons	307.4	379.9	466.8	6.9	7.9	7.4

Source: NSSO 38th, 50th and 61st Round Survey on Employment-Unemployment. Computed.

1 The labour force participation rates computed from 1999-2000 data are comparatively lower as compared to other years due to design change.

Table 4.3: Percentage Shares of Labour Force by Sector & Sex

Sector/sex	Percentage Shares			Average Annual Change (Percentage Points)		
	1983	1993-94	2004-05	1983 to 93-94	1993-94 to 04-05	1983 to 04-05
Rural Males	50.5	50.0	47.6	-0.05	-0.22	-0.14
Rural Females	29.4	27.5	26.8	-0.18	-0.06	-0.12
Rural Persons	79.9	77.5	74.4	-0.23	-0.29	-0.26
Urban Males	16.0	17.7	20.1	0.16	0.22	0.19
Urban Females	4.1	4.8	5.5	0.07	0.06	0.07
Urban Persons	20.1	22.5	25.6	0.23	0.29	0.26
Total Males	66.5	67.7	67.7	0.12	0.01	0.06
Total Females	33.5	32.3	32.3	-0.12	-0.01	-0.06
Total Persons	100.0	100.0	100.0			

Source: *ibid.*

Rural-Urban Distribution

4.11 There are two kinds of skewness in the distribution of India's labour force. First, rural labour is still predominant. In 1983, close to 80 percent of the labour force belonged to rural areas (Table 4.3). However, it reduced to 77.5 percent in 1993-94 and further to 74.4 percent in 2004-05. The average annual decrease was about 0.26 percentage points for the whole period, implying that the impact of urbanisation in the rural labour force has been minimal despite that the annual growth rate of urban labour force during 1983-2004/05

has been significantly higher at 3.12 percent as compared to 1.62 percent in the case of rural labour force. This is primarily because of the large size of rural labour force and low base of urban population. It is thus clear that a pragmatic employment strategy to alleviate poverty and vulnerability needs to have a significant focus on rural employment and its quality.

4.12 The average annual growth rate of the labour force in rural areas has declined from 1.7 percent during the first period to 1.5 percent in the second period. In contrast, it remained almost constant in urban areas, at 3.1 percent (Table 4.4).

Table 4.4: Growth Rates in Labour Force by Sector and Sex (Per cent/Year)

Sector/sex	Average Annual Growth Rates		
	1983 to 93-94	1993-94 to 04-05	1983 to 04-05
Rural Males	1.95	1.43	1.68
Rural Females	1.38	1.66	1.52
Rural Persons	1.74	1.51	1.62
Urban Males	3.03	3.08	3.06
Urban Females	3.56	3.19	3.37
Urban Persons	3.14	3.11	3.12
Total Males	2.22	1.89	2.05
Total Females	1.67	1.90	1.79
Total Persons	2.04	1.89	1.96

Source: *ibid.*

4.13 The second skewness is the dominance of men in the labour force. Males constituted more than twice the females in the total labour force in the country (67.7 percent and 32.3 percent for males and females respectively in 2004-05). The share of males in the labour force has slightly increased while that of the females has correspondingly decreased between 1983 and 2004-05. While the share of rural males in 1983 was 50.5 percent, it declined to 47.6 percent in 2004-05. The share of rural females also declined during the period, from 29.4 percent to 26.8 percent. We need to note here that the average annual growth rate of the labour force in rural areas has declined for males between the two periods while it has increased for females. In contrast, growth in male labour force improved slightly in urban areas, while that of female labour force declined sharply between the two periods.

Labour Force Participation Rates (LFPR)

4.14 The LFPRs have been remarkably stable, around 43 percent. But as can be seen from Table 4.5, there have been some changes across gender and locations with rural female participation rate registering a marginal decline during 1983 and 2004-05. Both urban males and females have registered increase in their participation rates.

Labour Force Participation Rates by Social Groups

4.15 Our report on Conditions of Work and Promotion of Livelihoods in the Unorganised Sector,

brought into relief the close correspondence between poverty, social identity and conditions of work. The LFPRs may also be expected to follow a similar pattern. LFPRs for various social groups by sex and location are presented in Table 4.6. (see Fig. 4.1).

4.16 The following picture emerges from the distribution of LFPRs:

First, the labour force participation rate of those belonging to Scheduled Tribe communities has generally been the highest and that of Muslims the lowest. The difference between the two was as high as 17.2 percentage points in the aggregate in 1983 though it reduced to 15.6 percentage points by 2004-05. Those belonging to Scheduled Caste communities too were characterised by high participation rates during the period.

Second, the participation rates were the highest among rural and urban males, and the lowest among urban females in the case of all social groups.

Third, among the social groups, the participation rate is the highest for rural males from STs and the lowest for urban as well as rural females from the Muslims.

Fourth, between 1983 and 2004-05, the participation rates in rural areas have declined in the case of both males and females from SCs, STs and Muslims. However, the decline was much higher among the SC females.

Table 4.5: Labour Force Participation Rates by Sector & Sex.

Sector/sex	1983	1993-94	2004-05
Rural Males	55.5	56.0	55.4
Rural Females	34.1	32.7	33.0
Urban Males	54.0	54.3	57.0
Urban Females	15.8	16.4	17.8
Total Males	55.1	55.5	55.8
Total Females	29.8	28.5	28.8
Total Persons	42.9	42.5	42.8

Source: *ibid.*

Table 4.6: Labour Force Participation Rates by Population Segments & Social Groups

Segment	Year	SC	ST	Muslim	Others	Total
Rural Male	1983	55.89	58.98	51.76	55.37	55.49
	1993-94	55.91	59.28	50.52	56.27	55.95
	2004-05	55.27	56.79	50.43	56.13	55.36
Rural Female	1983	38.39	47.34	20.10	32.78	34.08
	1993-94	35.32	47.74	16.45	31.82	32.66
	2004-05	33.56	46.54	18.34	33.35	32.98
Rural Person	1983	47.46	53.27	36.23	44.37	45.07
	1993-94	46.03	53.59	33.81	44.44	44.66
	2004-05	44.72	51.80	34.74	45.07	44.48
Urban male	1983	51.73	54.89	51.82	54.89	54.01
	1993-94	52.97	54.14	51.75	55.09	54.28
	2004-05	56.85	53.45	54.68	57.80	57.02
Urban Female	1983	21.02	25.56	11.31	15.45	15.77
	1993-94	20.64	23.61	12.77	16.05	16.36
	2004-05	21.05	25.51	12.72	17.92	17.81
Urban Person	1983	37.47	41.56	32.58	36.40	36.08
	1993-94	37.77	39.46	33.31	36.64	36.36
	2004-05	40.24	39.90	35.05	39.17	38.69
All Male	1983	55.14	58.59	51.78	55.24	55.13
	1993-94	55.36	58.78	50.97	55.92	55.50
	2004-05	55.62	56.42	51.97	56.67	55.84
All Female	1983	35.43	45.52	17.12	28.44	29.82
	1993-94	32.67	45.51	15.17	27.29	28.46
	2004-05	30.93	44.24	16.41	28.62	28.80
Total Person	1983	45.71	52.22	34.97	42.32	42.92
	1993-94	44.51	52.26	33.63	42.16	42.48
	2004-05	43.75	50.49	34.85	43.21	42.84

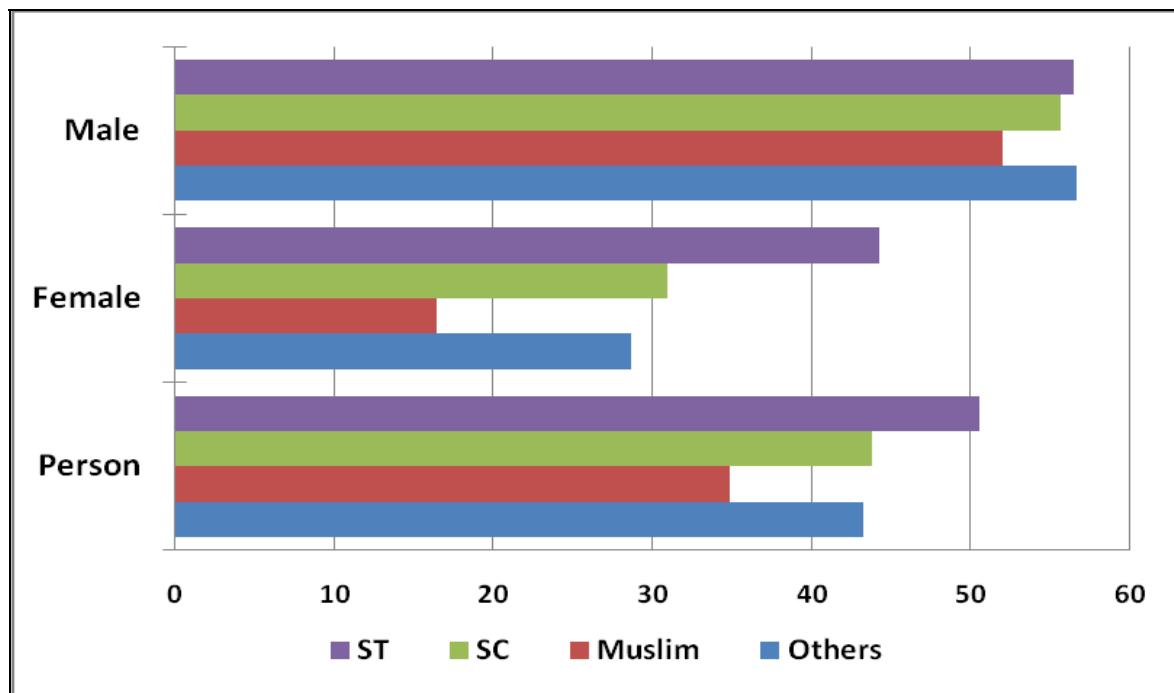
Note: The group 'Others' include Other Backward Castes (OBCs), Hindu upper castes, Sikhs, Christians and other religious groups except Muslims. The participation rates of OBCs and 'Others' separately for 2004-05 are given in Appendix 4.1

Source: *ibid.*

Fifth, the trends in male and female participation rates vary over the years by social groups in urban areas. The male participation rate has increased among the SCs and Muslims, but has declined among the STs. While the participation rate of muslim women has gone up, that of SC and ST women has remained stagnant over the years.

4.17 Given that the LFPR is relatively high among SC/ST groups, there is every reason to surmise that this is largely induced by the poor economic conditions because these are the groups with the highest incidence of poverty and other kinds of deprivation, especially education, and they are largely located in rural areas.

Fig. 4.1: Labour Force Participation Rate by Social Groups in 2004-05

Source: *ibid.*

4.18 We may also note here a few other features of LFPR across the four social groups comprising the total population. The trends over time in male participation rates, irrespective of the social identity, are almost similar but somewhat lower among Muslims during any year. This could be due to the age composition of the social group with a larger share of child population. The female participation rates among SC and ST groups are double and more than double respectively when compared to those among Muslim females. The female participation rates in rural areas are much higher than in urban areas among all the social groups.

Age-Specific Labour Force Participation

4.19 Given the generalized nature of poverty and vulnerability in the country, the age specific participation rates of population (Table 4.7) should be of significance not only to planners and policy makers but also to the citizens in general. The emergent scenario is as follows:

4.20 The positive development as discerned from LFPR is that the incidence of child labour is not only declining but the phenomenon would be completely eliminated by 2014 if the same pace is maintained.

Particularly notable here is the near absence of extreme forms of child labour as indicated by almost zero participation rates in the age group of 5-9 years. Child labour is now confined to the age group of 10-14 but that too has declined from around 21 percent to less than 7 percent. The rate of reduction is similar for both boys and girls.

4.21 There is also a significant reduction in participation rates in the adolescent age group of 15-19 suggesting greater access to schooling for the group. In our view, this certainly is a positive development and should be accelerated.

4.22 Over the years, the LFPRs have declined even in the age group 20-24, but they have fluctuated between 70.6 percent and 77.6 percent in the age groups from 25-29 to 50-54. In the age group 55-59, the participation rate was 66.9 percent in 2004-05 and did not change much over the years. In the case of older persons aged 60 and above, the participation rate declined from 42.3 percent in 1983 to 39.1 percent in 2004-05. The decline may be mainly due to increasing longevity and the consequent addition of persons in the higher age groups as many of them cease to work with increasing age.

Table 4.7: Age-Specific Labour Force Participation Rates by Sex (all India)

Age Groups	Males			Females			Persons		
	1983	1993 -94	2004-05	1983	1993 -94	2004-05	1983	1993 -94	2004-05
0 - 4	0.19	0.00	0.00	0.13	0.00	0.00	0.16	0.00	0.00
5 - 9	2.18	0.98	0.26	2.07	1.19	0.28	2.13	1.08	0.27
10-14	22.54	12.02	6.57	19.95	11.38	6.32	21.35	11.73	6.46
15-19	63.77	53.89	48.10	38.25	30.00	27.33	51.86	43.11	38.68
20-24	90.01	86.05	84.76	42.54	39.94	37.69	65.89	62.78	61.54
25-29	97.96	97.33	97.33	47.71	45.04	44.76	72.94	70.60	71.28
30-34	98.85	98.67	98.78	51.85	49.93	50.66	75.89	74.43	73.89
35-39	99.01	99.02	98.91	54.72	51.58	54.99	77.61	76.32	77.18
40-44	98.26	98.72	98.47	55.03	52.54	52.77	77.40	76.45	76.66
45-49	97.98	98.14	98.03	53.40	52.00	50.73	76.11	75.81	75.98
50-54	95.32	96.40	95.57	48.14	47.51	46.95	72.77	73.10	72.62
55-59	90.01	92.03	90.28	43.33	40.59	42.44	66.96	66.33	66.87
60+	63.65	64.28	57.09	20.77	20.84	21.04	42.26	42.82	39.05
Total	55.13	55.50	55.84	29.82	28.46	28.80	42.92	42.48	42.84

Source: *ibid.*

4.23 Several features of the LFPR variations between the males and females deserve our attention. Firstly, the average participation rate of women in the aggregate was just about half that of men. Secondly, while the peak level of labour force participation rate of women was about 55 percent in the age group of 35-39 in 2004-05, it was about 99 percent in the case of men in the same age group. Thirdly, there was a monotonically declining trend in the participation rates of females up to the age group of 25-29, while it was limited only up to the age group of 20-24 in the case of males over the time horizon under consideration. Fourthly, a peak level of 55 percent of the females entered the labour force only at the age group of 35-39 while about 85 percent of the males got into it in the age group 20-24. Finally, only about 21 percent of the women in the age group 60 and above remained in the labour force while about 57 percent of males in the same age group were in the labour force in 2004-05. These variations in female participation rates have long been discussed in the literature, and were largely attributed to their reproductive roles along with the sociological factors that often constrain their mobility.

Age Specific LFPR in Rural & Urban Areas

4.24 The declining trend of varying magnitudes in labour force participation rates up to the age group 20-24 persisted in the rural areas from 1983 to 2004-05. The age-specific rates in rural areas are given in Appendix 4.2

4.25 While the declining trend over the years was sharp up to the age group of 15-19, it was moderate in the age group 20-24. The participation rate reached the peak of about 81 percent in the age group 35-39 and remained almost at that level in the age groups 40-44 and 45-49. In the age groups of 25-29 and 50-54, the participation rates were about 75 percent and 77 percent respectively. In all the age groups from 25-29 to 55-59, the participation rates were more than 70 percent. In the age group 60 and above, no declining trend in labour force participation rate was visible in the case of rural areas, though there was an increase of 2.5 percentage points in 1993-94, which remained at 45 percent in 2004-05.

4.26 The overall trends in rural labour force participation rates were almost common to both males and females; except that the average and peak participation

rates of males were much higher than those of females. The peak participation rate for rural males was about 99 percent in the age group 35-39. Over the years, there were substantial LFPR declines up to the age group 20-24 in the case of rural females also. The late peaking of female LFPR is understandably related to their reproductive functions during 15-35 years. The peak level of participation rate was, however, about 63.8 percent in the age group 35-39 and the average LFPR was about 60 percent of that of males. In the case of those aged 60 and above, there was an increasing trend in LFPR among females.

4.27 In the case of urban population, the overall labour force participation rates were much lower than those of the rural population in all the age groups. Over the years the declining trend in participation rates among the young was shared by the urban population as well, up to the age group of 15-19. In the age group 20-24, though the participation rate declined from 54.4 percent in 1983 to 50.9 percent in 1993-94, it again improved to 53.1 percent in 2004-05. The peak level of participation rate which was 68.8 percent in 1993-94 in the age group 40-44 also changed to 67.5 percent in the age group 35-39 by 2004-05. The declining trend in the labour force participation rates of those in the age group 60 and above was also sharp in the case of urban population.

4.28 The overall labour force participation rate of urban males was almost comparable to that of rural males. The LFPR was over 90 percent in the age groups 25-29 to 50-54. There was, however, consistent and significant decline in the participation rates of those in the age group 60 and above. In the case of urban females, the labour force participation rate was just about 50 percent of that of rural females and about 30 percent of urban males. The desirable decline of LFPR of children was shared by urban females also. However, in the age groups 15-19, though the LFPR declined in 1993-94, it marginally increased during 2004-05. The peak level of participation rate was about 34 percent in the age group 35-39 in the year 2004-05. There was in fact a

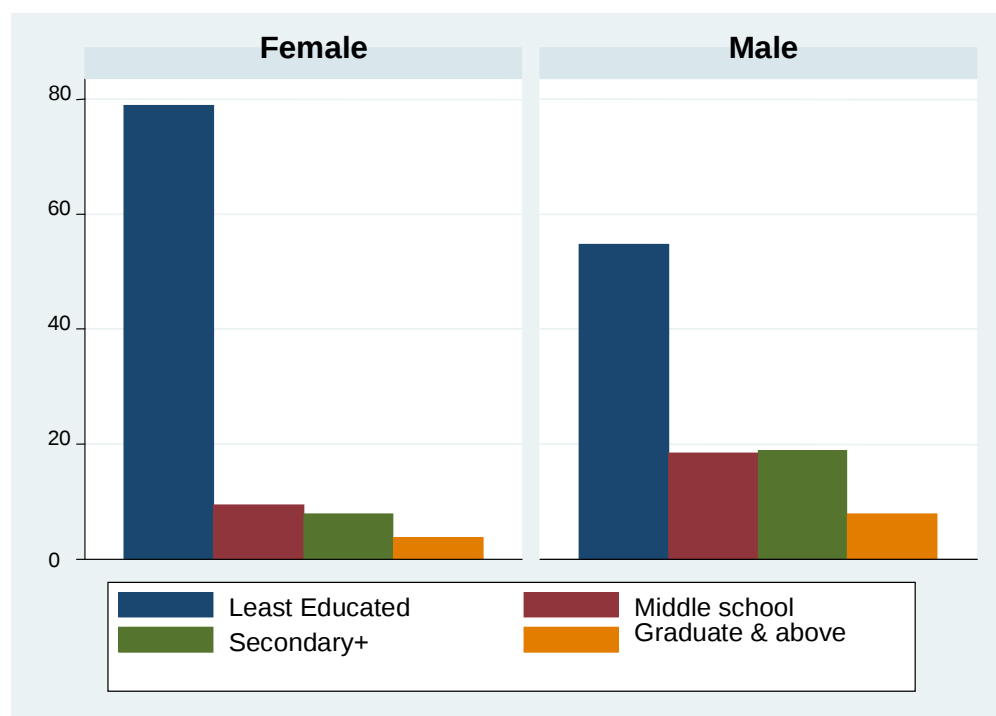
gradual increase in the LFPR of those in the age groups 20-24 to 35-39. In the case of those in the age groups 55-59 and 60 and above, there was a declining trend in the LFPR of urban females. Thus, the women in urban areas have been improving their share in the labour force over the years.

4.29 The lower LFPR in urban areas compared to rural areas is perhaps a manifestation of the higher proportion of youth attending educational and training courses in the former. This may *inter alia* indicate a less desperate urban situation to be in the labour force at an early age. Such a reading is reinforced by another indicator whereby the aged (60 years and above) shows a much higher LFPR in rural areas than in urban areas.

Low Educated: A Huge Underbelly

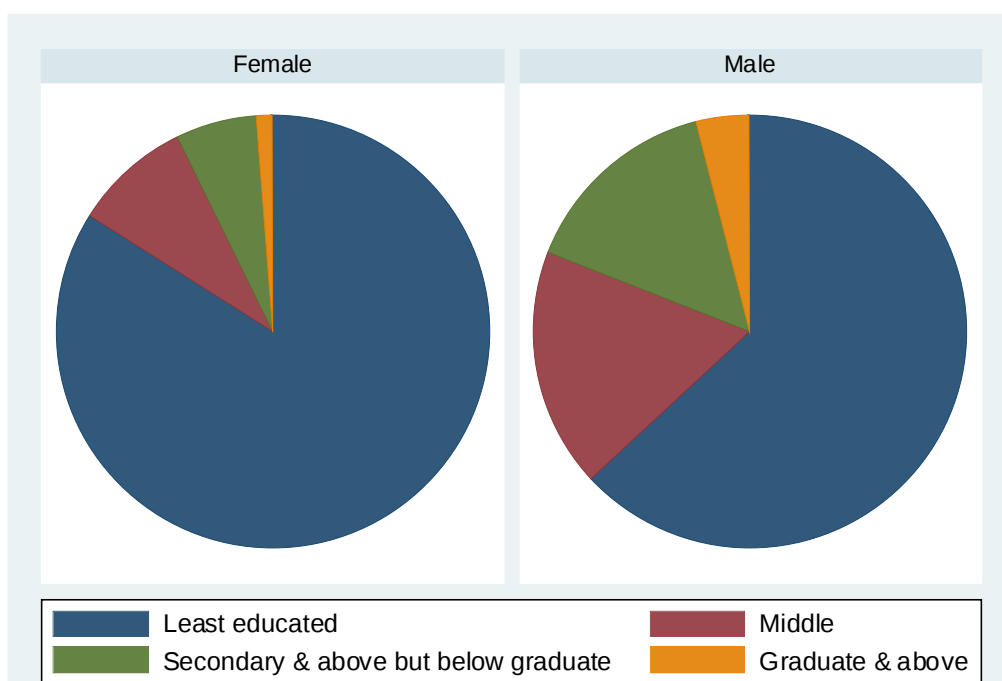
4.30 Educational levels are an important aspect indicating not only the quality of labour force in a country but also the potential for improving labour productivity. If people miss opportunities to acquire some level of education in childhood, the chances are that they end up in the labour force as low paid unskilled workers or remain unemployed. India's record in overcoming illiteracy, if anything, is quite disappointing, despite the recent positive signs. The proportion of illiterate labour force declined from 57.1 percent in 1983 to 37.9 percent in 2004-05, a reduction of about 19.2 percentage points. The share of those with education up to primary level (one-fourth of the labour force) remained almost static over a period of about 22 years from 1983 to 2004-05. There were, however, positive changes of varying magnitudes in the share of labour force with education up to middle level and above. While the share of those with middle level of education increased from 9.3 percent in 1983 to 15.5 percent in 2004-05, the same in the case of those with education up to secondary and higher secondary levels improved from 7.0 percent to 15.4 percent. In the case of graduates and above, the percentage share grew from 2.6 percent in 1983 to 6.6 percent in 2004-05 (Table 4.8 and Figs. 4.2 & 4.3).

Fig. 4.2: Percentage Distribution of Labour Force by Sex & Education in 2004-05



Note: Least Educated: illiterate plus educated below primary level)

Fig 4.3: Percentage Distribution of Rural Labour Force by Sex & Education, 2004-05



Source: *ibid.*

Table 4.8: Percentage Distribution of Total Labour Force by Education, Sector & Sex

Population Segment	Year	Illiterate	Primary & Below	Middle	Secondary & HS	Graduate & Above	Total
Rural Male	1983	52.42	29.41	10.64	6.16	1.37	100
	1993-94	43.81	28.84	13.61	11.03	2.71	100
	2004-05	33.67	29.32	17.99	15.07	3.95	100
Rural Female	1983	84.23	11.80	2.55	1.20	0.22	100
	1993-94	77.80	14.57	4.39	2.72	0.53	100
	2004-05	65.11	18.82	8.85	6.05	1.18	100
Urban Male	1983	22.27	30.16	18.15	19.60	9.81	100
	1993-94	18.07	25.56	17.52	24.42	14.43	100
	2004-05	12.84	22.55	19.34	28.03	17.24	100
Urban Female	1983	56.31	19.75	7.23	10.17	6.54	100
	1993-94	45.68	19.67	8.84	13.73	12.07	100
	2004-05	34.30	20.62	12.06	16.95	16.08	100
All Male	1983	45.17	29.59	12.45	9.40	3.40	100
	1993-94	37.08	27.98	14.63	14.53	5.78	100
	2004-05	27.48	27.30	18.39	18.92	7.90	100
All Female	1983	80.80	12.78	3.13	2.30	0.99	100
	1993-94	73.03	15.33	5.05	4.35	2.24	100
	2004-05	59.85	19.13	9.40	7.91	3.72	100
Total Person	1983	57.11	23.96	9.32	7.02	2.59	100
	1993-94	48.67	23.90	11.54	11.25	4.64	100
	2004-05	37.94	24.66	15.49	15.36	6.55	100

Source: *ibid.*

4.31 While acknowledging this as a positive development, the Commission would like to emphasize that the pace of progress is too slow compared to other Asian countries, especially those in East and South East Asia. The next challenge seems to be to impart effective literacy i. e. functional literacy and skills that would transform this segment from 'least educated' (illiterate plus educated below primary level) to those with some minimum level of literacy, numeracy and skill endowments. Viewed in this perspective, the burden of 'least educated' in the labour force is still high (around 63 percent), although it showed significant improvement over the earlier record of 81 percent. Women workers have a high

incidence of 'least educated' with as high as 79 percent in 2004-05 while it is still a disappointing 54 percent even for men. The problem is more serious in rural areas than in urban areas.

4.32 The persistence of what we call a huge underbelly of the least educated in the Indian labour force over a thin layer of the highly educated class indeed poses a serious challenge to the problem of creating quality employment. A 'business as usual' approach would hardly be sufficient to meet the challenge of inclusion in any meaningful sense. A serious and focused initiative to impart a measure of literacy, numeracy and skills is therefore called for on an urgent basis.

State-level Scenario in LFPR

4.33 Given the significant variations in LFPR across the states in India and the need for policy responses suited to particular states or group of states, we discuss a few salient features of the state-level scenario. The state-wise distribution of population and labour force in 2004-05 along with the LFPR in the decreasing order of population is given in Table 4.9.

4.34 Uttar Pradesh with the largest population and total labour force had the second lowest LFPR. With its large population base, any rise in its LFPR from the present low level can have significant impact on

total labour force participation for the country. Maharashtra with second largest population retained the same position in labour force also with a better LFPR. Bihar had the dubious distinction of having the lowest LFPR and as a result its position in the total labour force turned out to be the seventh despite having the third largest population. The other major state with a large population and low LFPR is West Bengal, though it retained its fourth position both in population and labour force. Andhra Pradesh was an exception with the second highest LFPR and the fifth largest population. As a result, it got elevated to the third position in labour force. Madhya Pradesh with the sixth largest population had a low LFPR though

Table 4.9: Rankings of States by Population, Labour Force & Participation Rates in 2004-05

Sl. No:	State	Population (Mn)	Rank	Labour Force (Mn)	Rank	Participation Rate	Rank
1	Uttar Pradesh	179.1	1	66.29	1	37.01	19
2	Maharashtra	101.88	2	48.19	2	47.3	6
3	Bihar	88.84	3	28.08	7	31.61	20
4	West Bengal	84.15	4	33.47	4	39.77	17
5	Andhra Pradesh	79	5	40.45	3	51.2	2
6	Madhya Pradesh	65.05	6	28.21	6	43.37	13
7	Tamil Nadu	64.13	7	31.32	5	48.84	4
8	Rajasthan	60.87	8	26.85	9	44.11	11
9	Karnataka	55.1	9	27.23	8	49.42	3
10	Gujarat	53.6	10	25.07	10	46.77	7
11	Orissa	38.41	11	17.85	11	46.47	8
12	Kerala	33.02	12	14.8	12	44.83	10
13	Jharkhand	28.56	13	11.74	13	41.1	15
14	Assam	28.37	14	11.13	14	39.23	18
15	Punjab	25.48	15	11.11	15	43.6	12
16	Haryana	22.51	16	9.26	17	41.15	14
17	Chhattisgarh	22.29	17	10.79	16	48.4	5
18	Jammu & Kashmir	11.16	18	4.53	18	40.56	16
19	Uttarakhand	9.01	19	4.05	19	44.9	9
20	Himachal Pradesh	6.33	20	3.38	20	53.39	1
21	Other NE	13.05		5.81		44.54	
22	Other states	19.69		7.17		36.44	
23	Total	1089.61		466.78		42.84	

Source: *ibid.*

it retained the sixth position in labour force. Tamil Nadu improved its seventh position in population size to fifth position in labour force with the fourth highest LFPR. Rajasthan could not retain its eighth position in population in the case of labour force due to low LFPR. Karnataka improved its position in labour force with third highest LFPR. The other states retained their relative positions both in population size and labour force except Haryana and Chhattisgarh which interchanged their positions. Himachal Pradesh, however, had the highest LFPR and Chhattisgarh had the fifth highest LFPR. The variation between the highest and lowest LFPR was as high as 21.8 percentage points in the aggregate.

State-wise Composition of Labour Force

4.35 The composition of labour force in different states by sector and sex in 2004-05 is given in Appendix 4.3 and the percentage distribution is given in Table 4.10. Rural males constituted about 47.6 percent of the total labour force at the all India level. However, their shares varied between 71.4 percent in Bihar and 32.6 percent in Tamil Nadu. The states in which the share of rural males was 50 percent or more were Bihar (71.4%), Assam (64.3%), Uttar Pradesh (55.8%), Orissa (55.4%), West Bengal (54.5%), Jammu & Kashmir (53.3%) and Jharkhand (52.6%). The share of rural males in the labour force was very low in Tamil Nadu (32.6%) and Maharashtra (35.0%).

Table 4.10: State-wise Percentage Distribution of Labour Force by Sector & Sex, 2004-05

State	Rural Male	Rural Female	Urban Male	Urban Female	All Male	All Female	Total Person
Andhra Pradesh	44.03	34.30	15.75	5.92	59.78	40.22	100.00
Assam	64.29	23.10	10.72	1.89	75.01	24.99	100.00
Bihar	71.44	18.89	8.64	1.03	80.08	19.92	100.00
Gujarat	40.54	27.47	26.16	5.83	66.70	33.30	100.00
Haryana	48.48	25.13	21.62	4.78	70.10	29.90	100.00
Himachal Pradesh	47.77	43.22	6.81	2.21	54.58	45.42	100.00
Jammu & Kashmir	53.29	24.00	19.20	3.50	72.50	27.50	100.00
Karnataka	41.79	30.02	21.67	6.51	63.46	36.54	100.00
Kerala	47.58	27.34	16.40	8.68	63.98	36.02	100.00
Madhya Pradesh	47.86	29.59	18.00	4.55	65.86	34.14	100.00
Maharashtra	35.02	27.71	28.86	8.41	63.88	36.12	100.00
Orissa	55.40	31.63	9.82	3.15	65.22	34.78	100.00
Punjab	44.36	23.57	26.38	5.69	70.74	29.26	100.00
Rajasthan	46.43	34.08	14.88	4.61	61.31	38.69	100.00
Tamil Nadu	32.59	24.94	30.39	12.07	62.99	37.01	100.00
Uttar Pradesh	55.77	24.45	16.62	3.16	72.39	27.61	100.00
West Bengal	54.54	16.23	23.66	5.57	78.20	21.80	100.00
Jharkhand	52.60	28.92	15.03	3.46	67.63	32.37	100.00
Chhattisgarh	46.54	37.10	12.56	3.81	59.09	40.91	100.00
Uttarakhand	43.62	35.20	17.40	3.78	61.02	38.98	100.00
Other NE	51.45	29.83	12.84	5.88	64.28	35.72	100.00
Other states	11.33	3.32	73.76	11.59	85.09	14.91	100.00
Total	47.56	26.80	20.13	5.52	67.69	32.31	100.00

Source: *ibid*

4.36 The share of rural females at the all India level was 26.8 percent. However, it was as high as 43.2 percent in Himachal Pradesh and as low as 16.2 percent in West Bengal. The other states which had significantly high percentage of rural females in labour force were Chhattisgarh (37.1%), Orissa (31.6%) and Karnataka (30.0%). The other major state in which the share of rural females in labour force was significantly low was Bihar with a share of 18.9 percent.

4.37 The share of rural areas in total labour force was as high as 91 percent in the case of Himachal Pradesh and 90.3 percent in the case of Bihar as against an all India average of 74.4 percent. The other major states with high percentage of rural labour force were Assam (87.4%), Orissa (87.0%), Chhattisgarh (83.6%), Jharkhand (81.5%), Rajasthan (80.5%) and Uttar Pradesh (80.2%). The percentage share of labour force in rural areas was comparatively low in Tamil Nadu (57.5%), Maharashtra (62.7%), Punjab (67.9%) and Gujarat (68.0%).

4.38 Urban Females constituted only 5.5% of the total labour force in the country though it was as high as 12.1 percent in Tamil Nadu, 8.6 percent in Kerala, 8.4 percent in Maharashtra and 6.5 percent in Karnataka. Its share was the lowest in Bihar (1.0%).

4.39 The share of males in the total labour force was the highest in Bihar with a share of about 80.1 percent as against the national average of 67.7 percent. The other states with significantly high proportion of males in the total labour force were West Bengal (78.2%), Assam (75.0%), Jammu & Kashmir (72.5%), Uttar Pradesh (72.4%), Punjab (70.7%) and Haryana (70.1%). The states with high proportion of females in the labour force are Himachal Pradesh (45.4%), Chhattisgarh (40.9%), Andhra Pradesh (40.2%), Uttarakhand (39.0%), and Rajasthan (38.7%).

State-wise Labour Force Participation Rates by Social Groups

4.40 There are significant variations across the states in the LFPR of different social groups and segments. The labour force participation rates by sector, sex and social groups are given in Appendix 4.4. The classification of states by level and change in LFPR of different social groups is given in Appendix 4.5. The salient features may

be summed up as follows.

4.41 In the case of Scheduled Tribes (STs), Karnataka had the highest LFPR of 55.1 percent followed by Gujarat (54.8%), Orissa (54.8%), and Kerala (54.1%). Punjab had the lowest LFPR of 36.5 percent and Jammu and Kashmir had the second lowest rate of 36.8 percent. Over the years, Assam's STs improved the LFPR from 33.3 percent in 1983 to 42.7 percent in 2004-05 and Haryana from 28.8 percent in 1983 to 50.0 percent in 2004-05. The other states which improved the LFPR of scheduled tribes were Gujarat, Jammu & Kashmir, Karnataka, Kerala, Orissa and Uttar Pradesh.

4.42 The average LFPR of Scheduled Caste (SCs) persons varied between 53.1 percent in Andhra Pradesh and 36.4 percent in Bihar. The other states with significantly high participation rates in 2004-05 were Karnataka (52.0%), Kerala (51.9%), Himachal Pradesh (51.2%), Tamil Nadu (50.9%) and Gujarat (49.6%). The states with low participation rates were Assam (38.8%) and Uttar Pradesh (39.9%). Between 1983 and 2004-05, the LFPR of scheduled castes improved in nine states and declined in eight states.

4.43 Over the period from 1983 to 2004-05, Muslim males improved their LFPR in the states of Assam, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab and West Bengal while Muslim females improved the LFPR in Andhra Pradesh, Assam, Gujarat, Himachal Pradesh, Madhya Pradesh, Orissa, Punjab, Uttar Pradesh, and West Bengal. Considering the entire Muslim population, the highest LFPR was 56.4 percent in Himachal Pradesh, though the second highest was much below at 48.1 percent in Punjab.

State-wise Labour Force by Education

4.44 There is no doubt that the problem of illiteracy among the labour force is fairly generalized for the country as a whole except in Kerala. But, as we stated earlier, the problem needs to be viewed as one of low education indicating a level of education that is adequate for absorption of information, acquisition of some level of formal training and maintaining one's own accounts with respect to wages and other transactions. Accordingly,

education up to primary level has been defined to constitute the category of the least educated. The state-wise percentage distribution of labour force by level of education is presented in Table 4.11. The problem is a much deeper one. The absolute numbers are given in Appendix 4.3

4.45 The lowest share of the least educated is in Kerala with around 33 percent followed by Maharashtra with close to 50 percent. There are four states viz., Rajasthan, Chhattisgarh, Madhya Pradesh and Andhra Pradesh where the share of the least educated is as high as 72 - 75 percent. All other states fall between these two groups of states.

4.46 Uttar Pradesh and West Bengal had the highest and second highest number of persons in the labour force with level of education primary or below. However, in percentage terms, Assam was on the top followed by West Bengal.

4.47 Kerala has the highest share of those with middle level of education (32.0%) followed by Maharashtra (22.1%) and Assam (21.3%). Kerala is also on the top in terms of percentage of those with secondary or higher secondary levels of education in the labour force, followed by Punjab (26.7%) and Himachal Pradesh (25.4%). The highest percentage of graduates and above is in Uttarakhand (8.3%), followed by Maharashtra

Table 4.11: State-wise Percentage Distribution of Labour Force by Education

State	Illiterates	Primary & Below	Least Educated	Middle	Secondary & HS	Graduates & Above	Total
Andhra Pradesh	51.96	20.87	72.83	10.61	11.83	4.73	100.00
Assam	20.53	39.60	60.13	21.27	13.94	4.66	100.00
Bihar	47.41	21.31	68.72	11.46	14.68	5.14	100.00
Gujarat	31.65	24.60	56.25	18.66	18.88	6.20	100.00
Haryana	33.12	23.76	56.88	11.14	24.21	7.77	100.00
Himachal Pradesh	25.03	31.33	56.36	12.07	25.41	6.16	100.00
Jammu & Kashmir	38.44	19.25	57.69	19.44	17.81	5.06	100.00
Karnataka	39.78	22.58	62.36	16.45	15.33	5.86	100.00
Kerala	6.58	26.27	32.85	31.98	27.00	8.17	100.00
Madhya Pradesh	46.92	26.47	73.39	10.10	10.45	6.05	100.00
Maharashtra	27.37	22.19	49.55	22.06	20.18	8.20	100.00
Orissa	42.78	26.08	68.86	16.48	9.45	5.21	100.00
Punjab	29.75	24.11	53.86	12.05	26.68	7.42	100.00
Rajasthan	53.67	21.36	75.02	11.22	9.35	4.40	100.00
Tamilnadu	28.00	30.83	58.83	15.65	17.41	8.10	100.00
Uttar Pradesh	46.34	20.11	66.45	14.55	13.12	5.89	100.00
West Bengal	30.00	34.75	64.75	14.89	12.77	7.59	100.00
Jharkhand	47.62	20.69	68.31	13.74	12.34	5.61	100.00
Chhattisgarh	43.63	30.59	74.22	11.44	9.51	4.83	100.00
Uttarakhand	33.82	21.20	55.02	17.94	18.78	8.27	100.00
Other NE	20.76	35.58	56.34	20.57	16.01	7.08	100.00
Other states	12.50	20.13	32.63	15.57	28.22	23.58	100.00
Total	37.94	24.66	62.60	15.49	15.36	6.55	100.00

Source: *ibid.*

(8.2%) and Kerala (8.2%) closely chased by Tamil Nadu (8.1%). The state-wise percentage distribution of labour force by population segments at each level of education is given in Appendix 4.6.

4.48 The Commission would like to underline the fact that in terms of the educational profile, Indian labour force presents a rather dismal picture. If acquisition of at least a middle level education (8 years) is taken as a dividing line, then close to two thirds of the labour force is inadequately educated. If a more strict dividing line say, secondary level (10 years) and above is taken, then 78 percent or more than three-quarters of the labour force is inadequately educated to cope with the challenges of a technologically fast growing global economy where acquisition of basic educational skills is a *sin qua non* for a knowledge-based economy. The Commission would like to draw attention here to what may seem to be a coincidence in that the division between 78 percent and 22 percent of the labour force with low and high education is quite close to our earlier estimate of 76 percent of the population belonging to the poor and vulnerable category while the rest 24 percent belonging to the middle and high income categories. As a separate and detailed study (Sengupta et.al 2008) pointed out, there is close association between educational attainments and the poverty status of the Indian population. Accordingly, what we have found here may not be a coincidence after all. It is for the planners and experts to probe further into the *prima facie* association between education and poverty status.

State-wise Rural/Urban Difference in Labour Force

4.49 In Appendix 4.7 we have provided the detailed calculations pertaining to the rural and urban differences by gender and other dimensions. The salient features are highlighted here to draw the attention to the differences between rural and urban areas.

4.50 In the entire rural labour force, the highest proportion of illiterates was 59.4 percent in Rajasthan during 2004-05. The second highest was in Andhra Pradesh with 58.4 percent illiterates. The other states with significantly high proportion of illiterates among the rural labour force were Madhya Pradesh (52.9%),

Bihar (51.3%), and Uttar Pradesh (50.2%). The lowest share of illiterates in labour force was 7.3 percent in Kerala followed by Assam (22.0 percent).

4.51 Between 1983 and 2004-05, the highest reduction in the percentage of illiterates among rural labour force was 30.1 percentage points in Himachal Pradesh. The other states with significant reduction in the percentage of illiterates were Jammu & Kashmir (27.5 points), Maharashtra (23.7 points) and Punjab (23.0 points). The lowest reduction was 10.7 points in Kerala as the share of illiterates in its labour force was already very low at 18.0 percent in 1983. The other state with a low reduction in the proportion of illiterates was Karnataka with a decline of 16.1 percentage points.

4.52 The share of illiterates among the total urban labour force was 17.4 percent. It was, however, as low as 4.6 percent in Kerala, 10.1 percent in Assam and 12.3 percent in Gujarat and Maharashtra. The highest percentage of illiterates among urban labour force was 29.9 percent in Rajasthan followed by 28.5 percent in Andhra Pradesh and 26.9 percent in Uttar Pradesh.

4.53 Between 1983 and 2004-05, the percentage of illiterates decreased by 11.7 percentage points at the national level in the urban areas. Among the states, the maximum decline in terms of percentage points was 19.4 in Bihar, followed by 17.0 in Rajasthan and 16.6 in Jammu & Kashmir. Himachal Pradesh registered a positive growth of 4.6 percentage points, a phenomenon perhaps due to migrants.

4.54 The illiterates and those educated up to primary level constitute a major share of the labour force and belong to the category of severely deprived in terms of education. The distribution of such persons in the labour force across the states provides a clear indication of the level of social and economic development in each state. The group is designated as the “least educated” for the purpose of discussion here. About 70.5% of the rural labour force belonged to the least educated group in 2004-05 as against 87.0% in 1983. Among the states, it varied between 35.2% in Kerala and 81.2% in Madhya Pradesh. The states of Rajasthan and Andhra Pradesh had 80.4% and 79.1% least educated rural labour force.

4.55 The reduction in the proportion of the least educated in rural labour force between 1983 and 2004-05 was 16.4% at the national level. Among the states, the declines were 31.0, 26.9, 25.0 and 22.8 percentage points in Kerala, Maharashtra, Himachal Pradesh and Jammu & Kashmir respectively. On the other side, West Bengal recorded the lowest decline of about 9.0 percentage points, followed by Rajasthan and Andhra Pradesh (12.8 and 13.8 percentage points respectively).

4.56 Among the urban labour force 39.6 percent was in the group of least educated in the year 2004-05. Among the states, it varied between 52.9% in Rajasthan and 26% in Kerala. The states, other than Rajasthan which had high share of least educated were Andhra Pradesh (50.2%), Uttar Pradesh (49.9%), and Madhya Pradesh (44.7%). The states which had comparatively low percentages of least educated, other than Kerala, were Assam (29.0%), Maharashtra (31.2%) and Gujarat (33.1%).

4.57 The overall reduction in the proportion of the least educated among urban labour force between 1983 and 2004-05 was 17.6 percentage points. The largest reduction was 25.2 in Gujarat, 24.8 in Kerala, and 23.7 in Bihar. The reduction was the lowest at 11.8 in Uttar Pradesh, 12.6 in West Bengal and 12.7 in Assam. In the case of Himachal Pradesh, the percentage of the least educated increased by 7.4 points probably due to the increased in-migration of unskilled workers.

4.58 In the preceding sections, we have examined the size, growth and characteristics of the labour force for a fairly long period of more than two decades. The sections that follow are intended to examine the size, growth and characteristics of workforce, especially with regard to the composition of the sectors and industries in which the workers are engaged, including the social groups and gender dimensions.

Trends in Size & Composition of Work Force

4.59 While the labour force, defined in terms of the employed and the unemployed, constitutes the supply of labour in a country, those actually engaged in work, called the work force, may be deemed as the labour demand. We say 'may be' because in the Indian context a good

part of the work force need not necessarily indicate a strong demand for work but rather represents the necessity to eke out a living, however precarious, by creating one's own employment. A sizeable percentage of the self-employed with or without the help of unpaid family members (called Own Account Workers) are those who are forced by circumstances to eke out such a living.

4.60 In line with the growth in the labour force, the total workforce of the country increased consistently from 301.4 million in 1983 to 372.4 million in 1993-94 and then to 455.7 million in 2004-05. The size and growth rate of the workforce by sector and sex is given in Table 4.12. The pattern of growth in the workforce is very similar to that of the labour force, discussed earlier.

4.61 The growth of work force has slowed down in recent years. The average annual growth rate of workforce decreased from 2.03 percent during the first period (1983 to 1993-94) to 1.85 percent during the second period (1993-94 to 2004-05). The slow-down was sharper for males and rural areas.

4.62 The UPSS work force included both the principal and subsidiary status workers. As shown in Table 4.13, the subsidiary status workers constituted 9.4 percent of the total work force in 2004-05. Rural areas (10.9 percent) and females (25.0 percent) had a larger concentration of subsidiary workers. Females account for 86 percent of the total subsidiary workers in the country. During 1983 and 2004-05, the decline in the proportion of subsidiary workers was rather small.

4.63 The percentage distribution of workers in each of the population segments by activity status during the years 1983, 1993-94 and 2004-05 is given in Table 4.14.

4.64 For the country as a whole, a great majority of the workers were either self-employed (56.6 percent) or casual workers (28.1 percent). Only 15.3 percent of the workers were regular salaried/wage workers. The proportion of own account workers and employers has declined from 36.6 percent in 1983 to 32.8 percent in 2004-05. On the other hand, the share of unpaid family workers has increased from 20.7 percent to 23.7 percent during this period. Thus, there has been a slight reduction in the share of self-employed during this period.

Table 4.12: Size and Growth Rate of Work Force by Sector and Sex

Population Segment	Work Force (Million)			Annual Growth Rate (%)		
	1983	1993-94	2004-05	1993-94/1983	2004-05/ 1993-94	2004-05/1983
Rural Males	153.03	187.32	218.44	1.94	1.41	1.67
Rural Females	89.75	103.51	122.91	1.37	1.57	1.47
Rural Persons	242.79	290.82	341.35	1.73	1.47	1.60
Urban Males	46.62	64.59	90.37	3.15	3.10	3.13
Urban Females	12.03	17.01	23.99	3.36	3.17	3.26
Urban Persons	58.65	81.60	114.36	3.20	3.12	3.15
Total Males	199.66	251.90	308.81	2.24	1.87	2.05
Total Females	101.78	120.52	146.89	1.62	1.82	1.72
Total Persons	301.44	372.42	455.70	2.03	1.85	1.94

Source: *ibid.*

Table 4.13: Percentage Distribution of Workers by Principal (UPS) & Subsidiary (SS) Activity

Sector & Sex	Year	UPS	SS	UPSS
Rural Male	1983	96.58	3.42	100.00
	1993-94	97.36	2.64	100.00
	2004-05	97.83	2.17	100.00
Rural Female	1983	73.19	26.81	100.00
	1993-94	71.00	29.00	100.00
	2004-05	73.65	26.35	100.00
Rural Person	1983	87.94	12.06	100.00
	1993-94	87.98	12.02	100.00
	2004-05	89.12	10.88	100.00
Urban Male	1983	97.61	2.39	100.00
	1993-94	98.55	1.45	100.00
	2004-05	98.61	1.39	100.00
Urban Female	1983	79.56	20.44	100.00
	1993-94	78.32	21.68	100.00
	2004-05	81.72	18.28	100.00
Urban Person	1983	93.91	6.09	100.00
	1993-94	94.33	5.67	100.00
	2004-05	95.06	4.94	100.00
Total Male	1983	96.82	3.18	100.00
	1993-94	97.66	2.34	100.00
	2004-05	98.06	1.94	100.00
Total Female	1983	73.95	26.05	100.00
	1993-94	72.03	27.97	100.00
	2004-05	74.97	25.03	100.00
Total Person	1983	89.10	10.90	100.00
	1993-94	89.37	10.63	100.00
	2004-05	90.61	9.39	100.00

Source: *ibid.*

Table 4.14: Percentage Distribution of Workers by Activity Status

Population Segment	Year	Self-employed			Regular Salaried/ Wage Workers	Casual Workers	Total
		Own Account & Employers	Un-paid Family Workers	Sub-total			
RuralMale	1983-	45.85	14.66	60.52	9.76	29.73	100.00
	1993-94	40.39	17.36	57.74	8.53	33.73	100.00
	2004-05	41.90	16.59	58.48	8.93	32.59	100.00
RuralFemale	1983-	23.91	38.01	61.92	2.77	35.31	100.00
	1993-94	16.35	42.75	59.10	2.67	38.24	100.00
	2004-05	15.94	47.98	63.92	3.68	32.41	100.00
RuralPersons	1983-	37.74	23.29	61.03	7.18	31.79	100.00
	1993-94	31.83	26.39	58.22	6.44	35.34	100.00
	2004-05	32.55	27.89	60.44	7.04	32.52	100.00
UrbanMale	1983-	33.27	7.59	40.86	43.74	15.40	100.00
	1993-94	33.35	8.27	41.62	42.28	16.10	100.00
	2004-05	36.20	8.42	44.62	40.84	14.54	100.00
UrbanFemale	1983-	26.43	19.04	45.47	26.27	28.26	100.00
	1993-94	24.16	20.46	44.62	29.51	25.87	100.00
	2004-05	24.14	23.05	47.19	35.97	16.84	100.00
Urban Persons	1983-	31.87	9.94	41.81	40.15	18.04	100.00
	1993-94	31.43	10.81	42.24	39.62	18.14	100.00
	2004-05	33.67	11.49	45.16	39.82	15.02	100.00
TotalMale	1983-	42.92	13.01	55.93	17.69	26.38	100.00
	1993-94	38.58	15.03	53.61	17.18	29.21	100.00
	2004-05	40.23	14.20	54.43	18.26	27.31	100.00
TotalFemale	1983-	24.21	35.76	59.97	5.55	34.48	100.00
	1993-94	17.45	39.60	57.05	6.46	36.49	100.00
	2004-05	17.28	43.91	61.18	8.95	29.86	100.00
TotalPersons	1983-	36.60	20.69	57.29	13.59	29.11	100.00
	1993-94	31.74	22.98	54.72	13.71	31.57	100.00
	2004-05	32.83	23.77	56.61	15.26	28.13	100.00

Source: *ibid.*

4.65 In spite of a small increase in regular salaried/wage workers and a small decrease in casual workers between 1983 and 2004-05, the rural female workers continued to be the most disadvantaged in terms of the work force characteristics. As compared to the male workers in both rural and urban areas, and female workers in urban areas, share of the unpaid family workers among the rural female workers is not only the highest, it has also increased by 10 percentage points, from 38.0 percent

in 1983 to 48.0 percent in 2004-05. Similarly, as compared to other categories of workers, the proportion of own account workers and employers among rural female workers is not only the lowest, but it has also declined further by 8 percentage points, from 23.9 percent to 15.9 percent during this period.

4.66 The rural male workers have not done well on the employment front also. Between 1983 and 2004-05,

the percentage share of own account workers and employers among the rural male workers have reduced from 45.9 percent to 41.9 percent. In addition, the proportion of regular salaried workers has declined from 9.8 percent to 8.9 percent, while the proportion of casual workers has increased from 29.7 percent to 32.6 percent during this period.

4.67 In terms of time trends, the urban female workers were better-off. There has been substantial decline in the proportion of casual workers among urban female workers, from 28.3 percent to 16.8 percent between 1983 and 2004-05, a 11 percentage points decline. On the other hand, their share of regular salaried/wage workers has significantly increased by 10 percentage points, from 26.3 percent to 36.0 percent during this period.

Gender Differentials in Education by Industry Groups

4.68 The comparative percentages of male and female workers with different educational levels by industry in 1983 and 2004-05 are given in Tables 4.15 and 4.16.

4.69 Proportion of the least educated among female workforce was 80.6 percent in 2004-05 as compared to 55.5 percent in the case of males. Industry-wise, 96.7 percent of the female workforce in mining industry belonged to the category of 'least educated' as against 62.4 percent in the case of males. Other industries with significantly large proportion of the least educated female workers included (i) construction (91.7%), (ii) agriculture (87.5%), and (iii) private households & ETOs (85.7%). In all these industry groups, the percentages of the least educated females were significantly larger than such persons among the males. However, like in the case of the least educated females, the proportion of the least educated males in all these industries were higher than the overall average for all male workers. Workers in rural areas in general and women workers in particular have low autonomy and face additional constraints due to low human capabilities, especially because of the low levels of education, that mars their ability to acquire and maintain good quality jobs outside agriculture.

Industry-wise Distribution of Workers by Social Groups

4.70 The percentage distribution of workers in each industry by social groups during 2004-05 is given in Table 4.17. In the aggregate, Scheduled Tribe (ST) and Scheduled Caste (SC) workers constituted 9.8 percent and 19.9 percent of work force respectively while Muslims and Other Backward Communities (OBCs) constituted 10.4 percent and 37.4 percent respectively. The rest 22.6 percent belonged to other communities.

4.71 Agriculture provides employment to 56.6 percent of the total workforce. Workers from ST, SC and OBC Communities have a significantly higher concentration in agriculture as compared to Muslims and 'Others'. For instance, as high as 8 out of 10 ST workers and 6 out of 10 SC and OBC workers were engaged in agriculture as compared to 46 percent and 39 percent among 'Others' and Muslims respectively. A similar pattern is found in the case of mining sector as well.

4.72 After agriculture, 'manufacturing', 'trade', 'construction' and 'transport, storage and communication' are the sectors that provide employment to a significant number of workers. Of the total workers, 12.2 percent were in manufacturing, 9.5 percent in trade, 5.7 percent in construction, and 4.0 percent in transport, storage and communication. As compared to other social groups, the concentration of Muslim workers in all of these sectors was the highest: manufacturing (21.5 percent), trade (17.2 percent), construction (6.6 percent), and transport storage and communication (6.2 percent). In addition to Muslims, SC and ST communities also have a larger share in construction sector (8.9 and 5.9 percent respectively). Another industry group where the ST, OBC and Muslim workers have relatively large presence as workers is 'other community, social and personal services'.

4.73 It is evident from the above analysis that certain social groups are significantly attached to specific industries. Scheduled Tribes and Scheduled Castes are generally employed in land-based industries like agriculture, mining and construction. Muslims were associated with trade apart from manufacturing and transport, storage and communication services. OBCs on

Table 4.15: Percentages of Male & Female Workers with Different Educational Levels by Industry Groups in 1983

Industry Group	Illiterate		Least Educated		Middle		Secondary & HS		Graduates & above	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Agriculture	57.6	85.7	85.8	97.0	9.4	2.3	4.2	0.7	0.6	0.1
Mining	51.9	94.0	77.0	99.0	11.1	0.5	9.2	0.5	2.7	0.0
Manufacturing	30.2	65.1	69.0	90.6	15.8	6.2	11.8	2.7	3.5	0.4
Electricity, gas, water	13.3	34.6	43.2	45.2	21.4	0.0	24.2	20.1	11.3	34.7
Construction	46.9	90.1	80.0	97.9	11.3	1.1	6.6	0.6	2.1	0.4
Trade	23.1	74.4	59.0	92.0	20.4	4.8	16.2	2.7	4.4	0.5
Hotels & Restaurants	27.5	63.1	71.3	91.7	19.3	5.6	7.8	1.8	1.6	0.9
Transport, Storage & Communication	30.8	49.4	62.3	64.7	17.7	5.9	15.8	18.1	4.1	11.2
Banking & Finance	1.8	10.2	10.0	19.3	11.8	5.2	29.4	14.9	48.8	60.7
Real Estate & Business services	5.0	0.0	22.0	8.8	15.7	14.0	23.9	31.8	38.3	45.5
Public Admn & Defence	9.0	29.2	27.7	39.8	18.6	8.4	36.1	31.6	17.6	20.2
Education	4.1	7.0	11.1	13.9	10.8	13.1	42.0	42.0	36.1	31.0
Health and Social work	6.2	19.2	22.9	37.0	19.5	13.3	35.9	38.0	21.7	11.7
Other community, Social & Personal Services	42.8	86.7	78.0	95.8	12.6	1.4	7.2	1.7	2.1	1.0
Private households & ETOs	57.5	78.5	89.5	97.9	7.7	1.9	1.8	0.2	1.0	0.0
Total	46.0	81.6	75.7	94.4	12.1	2.9	8.9	1.9	3.2	0.8

Source: *ibid.*

the other hand are employed in all the industries with the least variation in their shares across different industry groups from the overall average. Those belonging to 'Other' communities maintain higher participation in the lucrative service industries like banking & finance and real estate & business services. Thus, social status of workers has a definite influence on the choice of employment.

Classification of Industries by Growth in Employment

4.74 The classification of industry groups by growth rates of employment in both the periods (1983 to 1993-

94 & 1993-94 to 2004-05) is given in Table 4.18. While, no industry recorded negative growth in employment during the period from 1983 to 1993-94, two sectors viz. (i) public administration & defence and (ii) electricity, gas & water registered negative growth rates in employment during 1993-94 to 2004-05. The policy of downsizing of the Government coupled with increased privatization of electricity, gas & water seemed to have resulted in employment losses in these sectors.

4.75 Employment in agriculture and 'other community, social & personal services' continued to grow at a rate lower than 2 percent in both the periods. However,

Table 4.16: Percentages of Male & Female Workers with Different Educational Levels by Industry Groups in 2004-05

Industry Group	Illiterate		Least Educated		Middle		Secondary & HS		Graduates & above	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Agriculture	38.7	69.1	68.4	87.5	16.8	8.2	12.4	4.1	2.4	0.3
Mining	35.1	89.7	62.4	96.7	14.9	0.3	16.5	2.4	6.3	0.5
Manufacturing	18.3	43.2	48.7	71.6	21.7	16.1	21.9	10.5	7.7	1.8
Electricity, gas, water	5.5	19.2	21.3	26.1	18.6	15.3	40.9	38.8	19.3	19.9
Construction	32.8	74.1	65.7	91.7	20.6	5.5	11.5	1.5	2.3	1.3
Trade	13.9	44.4	38.5	68.9	21.5	13.5	29.8	13.8	10.3	3.9
Hotels & Restaurants	20.2	47.0	54.8	75.2	22.8	14.1	19.1	7.7	3.3	3.0
Transport, Storage & Communication	20.1	16.8	44.7	31.8	23.1	14.7	25.2	30.2	7.1	23.3
Banking & Finance	0.2	4.1	4.3	7.4	10.5	5.6	31.0	16.3	54.2	70.7
Real Estate & Business services	3.0	9.4	14.9	13.6	12.3	4.6	29.2	23.9	43.7	57.9
Public Admn & Defence	4.8	18.0	16.7	30.6	13.7	10.0	40.0	32.1	29.6	27.2
Education	1.2	4.4	5.6	9.4	4.3	6.2	33.3	36.9	56.9	47.5
Health and Social work	2.8	14.0	10.9	25.6	12.2	8.8	39.4	43.2	37.5	22.4
Other community, Social & Personal Services	23.6	61.7	54.6	76.4	21.1	8.3	18.5	11.1	5.8	4.1
Private households & ETOs	28.5	57.1	65.4	85.7	20.9	10.0	10.9	3.8	2.8	0.6
Total	28.0	61.3	55.5	80.7	18.4	9.2	18.5	7.0	7.6	3.1

Source: *ibid.*

employment in 'private households' which had the lowest rate of growth of 0.8 percent in the first period achieved a growth rate of 6.4 percent in the second period.

4.76 The industry groups (i) mining and (ii) health & social work which had employment growth rates higher than 2 percent but less than 4 percent during the first period could achieve only growth rates of less than 2 percent during the second period. Manufacturing sector retained a growth rate between 2 and 4 percent during both the periods though it was lower during the second period than in the first period. The industry groups with employment growth rates between 2 and 4 percent during

the first period viz. (i) hotels & restaurants, (ii) transport, storage & communication and (iii) education increased the same to more than four percent during the second period. Banking & finance sector which achieved 6.4 percent growth rate in employment during 1983 to 1993-94 could not sustain the same during the period 1993-94 to 2004-05 and ended-up with a significantly lower growth rate of 3.1 percent. The two sectors which achieved significant growth rates in employment in both the periods were (i) construction and (ii) real estate & business services. Construction sector which achieved a growth rate of 5.7 percent during first period improved it to 7.2 percent in the second period. Real estate &

Table 4.17: Percentage Distribution of Workers by Industry & Social Group in 2004-05

Industry Group	ST	SC	OBC	Muslim	Others	Total
Agriculture	78.56	59.61	60.68	38.60	45.76	56.56
Mining	0.94	0.75	0.54	0.31	0.48	0.58
Manufacturing	4.68	10.68	12.24	21.45	12.31	12.16
Electricity, gas, water	0.19	0.29	0.21	0.28	0.45	0.29
Construction	5.76	8.86	5.17	6.60	3.32	5.69
Trade	2.98	5.89	8.15	17.18	14.20	9.50
Hotels & Restaurants	0.48	0.80	1.45	1.31	2.00	1.34
Transport, Storage & Communication	1.88	4.07	3.47	6.23	4.86	4.04
Banking & Finance	0.10	0.34	0.52	0.29	1.66	0.68
Real Estate & Business services	0.15	0.65	0.71	0.89	2.29	1.02
Public Admn & Defence	1.37	2.28	1.41	1.27	3.21	1.97
Education	1.40	1.45	1.93	1.88	5.13	2.50
Health and Social work	0.32	0.71	0.67	0.66	1.40	0.81
Other community, Social & Personal Services	0.46	2.13	2.08	1.95	1.71	1.83
Private households & ETOs	0.74	1.48	0.77	1.10	1.22	1.04
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: *ibid.*

business services registered the highest growth rates of 7.6 percent and 10.4 percent in the first and second periods respectively. The average rate of growth of employment during 1983 to 2004-05 was 9.0 percent in real estate & business services and 6.4 percent in the case of construction, against the overall growth rate of 1.9 percent in the total work force.

Policy Implications

4.77 It was undoubtedly a positive change that the proportion of illiterates among the labour force in all segments of population was decreasing consistently over the years as a consequence of policies and programs by the government for achieving universal primary education. The achievements were, however, not uniform across all

the segments of population. In the aggregate 38 percent of the labour force remained illiterate in 2004-05. By segments, 33.7 percent of rural males, 65.1 percent of rural females, 12.8 percent of urban males and 34.3 percent of urban females were illiterate. Thus almost two-third of the rural females who constituted 27.0 percent of the total labour force in the country remained illiterate in 2004-05. Among them, the percentage of illiterates was the lowest at 38.8 percent in the age group 15-19 followed by those in the age group 20-24 at 45.4 percent, 10-14 at 48.3 percent, and 25-29 at 54.8 percent. In the case of all other age groups, the illiterates were more than 65 percent. Even among rural males and urban females, the percentages of illiterates were significantly high.

Table 4.18: Classification of Industries by Rates of Growth of Employment during 1983 to 1993-94 & 1993-94 to 2004-05

Rate of growth during 1983 to 1993-94	Rate of Growth During 1993-94 to 2004-05			
	$R \leq 0$	$0 < R \leq 2$	$2 < R \leq 4$	$R > 4$
$0 < R \leq 2$		Agriculture; Other community, social & personal services		Private households
$2 < R \leq 4$	Public administration & defence	Mining; Health & social work	Manufacturing	Hotels & Restaurants; Transport, storage & communication; Education
$R > 4$	Electricity, gas & water		Banking & finance; Trade	Construction; Real estate & business services

Note : R denotes rate of growth
Source: *ibid.*

4.78 There are significant variations in both the level and change across the states in the LFPR of different social groups and segments. First, Bihar has the dubious distinction in terms of participation rates among the SCs, STs and Muslims. For these social groups, Bihar has not only lower participation rates below the national average, the LFPR has indeed declined between 1983 and 2004-05 also. This is true not only in rural and urban areas, but also for males and females. Uttar Pradesh follows very closely the trends in Bihar excluding the case of rural STs. It is also interesting to note that even prosperous states like Tamil Nadu and West Bengal show poor performance in the case of Muslims and STs in both the rural and urban areas. In terms of better performance (i.e. high participation rate and continuous improvement between 1983 and 2004-05) Karnataka stands out for SCs, STs and Muslims in both the rural and urban areas. Gujarat follows next in improving the participation rates of SCs and Muslims, and Orissa for SCs and STs in both the rural and urban areas.

4.79 The percentage share of the least educated (illiterates and those up to primary level) in the labour force was more than the national average in Rajasthan (75.0%), Chhattisgarh (74.2%), Madhya Pradesh (73.4%), Andhra Pradesh (72.8%), Orissa (68.9%), Bihar

(68.7%), Jharkhand (68.3%), Uttar Pradesh (66.4%) and West Bengal (64.8%). Between 1983 and 2004-05, Orissa exhibited exceptional performance among these states, in terms of reduction in percentage share of the least educated in the labour force. Andhra Pradesh and West Bengal exhibited a decline in percentage shares lower than the national average in both the rural and urban areas. In rural areas, the performance was poor in Bihar, Madhya Pradesh and Rajasthan as well. In contrast, some states that have done very well in terms of the lower than national average of the least educated and higher than the national average in the reduction of least educated in the labour force during 1983 and 2004-05 are Gujarat, Kerala, Maharashtra and Punjab, in both rural and urban areas.

4.80 It is indisputable that educational deprivation is a significant cause of low productivity, poverty and falling victim to exploitation. It is, therefore, important that the issue of illiteracy of labour force is tackled through appropriate schemes and programmes which are sensitive to the needs of women.

4.81 As regards work force, rural females constituted more than three-fourth of the subsidiary status workers. Females accounted for almost one third of the unpaid

family workers and a little more than one third of the casual workers. Their share was the least among own account workers, employers and regular salaried/wage workers. Among rural females, there has been a substantial increase in the share of unpaid family workers between 1983 and 2004-05, and decrease in the share of own account workers and employers. On the contrary, among urban females, there has been a substantial increase in the share of regular workers and decrease in the share of casual workers. Thus, while there have been improvements among urban females, rural females have shown deterioration. Among, males too, urban male workers are better off than their rural counterparts, both in terms of levels and change in employment. Due to low literacy and low autonomy, rural females are concentrated in agriculture and engaged in unpaid family labour or as casual workers, restricting their mobility in job ladder.

4.82. Agriculture is the major source of employment followed by 'manufacturing', 'trade', 'construction', and 'transport, storage and communication'. However, in spite of the positive growth rates, the share of agriculture in employment has been declining over time and change in the composition of work force has been relatively unfavourable with rising shares of unpaid family workers

and casual workers. In the construction sector too the share of regular workers has declined while that of casual workers has increased. The concentration of the least educated in these sectors too, has restricted the ability of the workers to obtain quality jobs.

4.83. The socio-economically deprived groups such as Scheduled Tribes and Scheduled Castes are generally employed in land based industries like agriculture, mining and construction. Muslims have been associated with trade apart from manufacturing and transport, storage and communication services. OBCs on the other hand are employed in all the industries with the least variation in their shares across different industry groups from the overall average. Those belonging to 'Other' communities maintain higher participation in the lucrative service industries like banking & finance and real estate & business services. Thus, the social status of workers has, a definite influence on the choice of employment.

8.84. Any credible employment strategy, therefore, needs to pay attention to enhancing educational levels of the workers, social status of workers including women, specific industries that can absorb a higher proportion of males and females and creation of quality jobs.

Appendix 4.1: Labour Force Participation Rates for OBCs & 'the Remaining' among 'Total Others' in 2004-05

Labour Force Participation Rates			
Segment	OBCs	Remaining	Total Others
Rural Males	55.23	58.00	56.13
Rural Females	34.82	30.29	33.35
Rural Persons	45.32	44.56	45.07
Urban Males	58.36	57.32	57.80
Urban Females	20.98	15.34	17.92
Urban Persons	40.89	37.72	39.17
All Males	55.99	57.70	56.67
All Females	31.63	23.94	28.62
Total Persons	44.27	41.59	43.21

Source: NSSO 61st Round Survey on Employment-Unemployment. Computed.

Appendix 4.2: Age-Specific Labour Force Participation Rates by Sex

Table 4.2.1: Age-Specific Labour Force Participation Rates of Rural Population by Sex

Age Groups	Males			Females			Persons		
	1983	1993 -94	2004-05	1983	1993 -94	2004-05	1983	1993 -94	2004-05
0-4	0.18	0.00	0.00	0.14	0.00	0.00	0.16	0.00	0.00
5-9	2.56	1.13	0.26	2.47	1.41	0.28	2.51	1.26	0.27
10-14	25.66	13.84	7.04	23.94	13.91	7.36	24.87	13.87	7.19
15-19	69.31	59.37	52.69	45.84	36.50	32.75	58.28	49.06	43.54
20-24	92.99	90.04	89.01	49.57	46.38	43.10	70.23	67.57	65.55
25-29	98.23	97.98	98.17	55.67	52.49	52.65	76.70	74.30	74.97
30-34	98.90	98.84	98.85	59.46	58.05	58.70	79.09	78.24	77.47
35-39	99.03	99.10	99.13	62.53	60.39	63.77	81.19	80.66	81.40
40-44	98.32	98.86	98.52	62.12	59.97	62.19	80.40	79.52	80.99
45-49	98.04	98.38	98.21	60.03	58.86	61.01	79.04	78.70	80.75
50-54	95.68	97.02	96.34	54.06	53.73	55.74	75.62	76.20	76.91
55-59	92.02	94.27	93.20	48.66	46.32	50.59	70.33	70.04	72.15
60+	66.96	70.24	64.76	22.73	24.00	25.35	45.11	47.66	45.15
Total	55.49	55.95	55.36	34.08	32.66	32.98	45.07	44.66	44.48

Source: NSSO 38th, 50th and 61st Round Survey on Employment-Unemployment. Computed.

Table 4.2.2: Age-Specific Labour Force Participation Rates of Urban Population by Sex

Age Groups	Males			Females			Persons		
	1983	1993 -94	2004-05	1983	1993 -94	2004-05	1983	1993 -94	2004-05
0-4	0.25	0.00	0.00	0.08	0.00	0.00	0.17	0.00	0.00
5-9	0.78	0.48	0.26	0.62	0.47	0.30	0.71	0.47	0.28
10-14	12.16	6.79	5.18	6.93	4.52	3.43	9.74	5.73	4.35
15-19	49.02	40.16	37.77	17.07	13.80	14.22	34.38	28.24	27.37
20-24	82.96	76.80	76.73	21.51	22.84	24.98	54.37	50.91	53.14
25-29	97.26	95.78	95.64	24.53	24.68	26.09	62.60	61.11	63.29
30-34	98.72	98.28	98.63	27.18	28.05	30.60	66.62	64.72	65.79
35-39	98.95	98.82	98.44	30.26	30.22	34.00	66.91	65.64	67.53
40-44	98.11	98.42	98.36	30.99	31.89	31.48	68.24	68.80	67.18
45-49	97.80	97.57	97.65	30.65	31.43	27.09	66.84	68.02	65.25
50-54	94.14	94.61	93.88	27.28	28.28	25.84	63.06	63.85	62.79
55-59	83.27	85.57	83.35	23.24	22.46	21.73	55.00	55.13	53.96
60+	50.69	44.20	36.54	13.77	11.15	9.97	31.61	27.27	23.04
Total	54.01	54.28	57.02	15.77	16.36	17.81	36.08	36.36	38.69

Source: ibid.

Appendix 4.3: State-wise Distribution of Labour Force (million) by Sector & Sex 2004-05

State	Rural Males	Rural Females	Rural Persons	Urban Males	Urban Females	Urban Persons	All Males	All Females	Total Persons
Andhra Pradesh	17.81	13.87	31.68	6.37	2.4	8.77	24.18	16.27	40.45
Assam	7.16	2.57	9.73	1.19	0.21	1.4	8.35	2.78	11.13
Bihar	20.06	5.3	25.37	2.43	0.29	2.72	22.49	5.59	28.08
Gujarat	10.16	6.89	17.05	6.56	1.46	8.02	16.72	8.35	25.07
Haryana	4.49	2.33	6.82	2	0.44	2.45	6.49	2.77	9.26
Himachal Pradesh	1.62	1.46	3.08	0.23	0.07	0.3	1.85	1.54	3.38
Jammu & Kashmir	2.41	1.09	3.5	0.87	0.16	1.03	3.28	1.25	4.53
Karnataka	11.38	8.18	19.56	5.9	1.77	7.67	17.28	9.95	27.23
Kerala	7.04	4.05	11.09	2.43	1.29	3.71	9.47	5.33	14.8
Madhya Pradesh	13.5	8.35	21.85	5.08	1.28	6.36	18.58	9.63	28.21
Maharashtra	16.88	13.36	30.24	13.91	4.05	17.96	30.79	17.41	48.19
Orissa	9.89	5.64	15.53	1.75	0.56	2.32	11.64	6.21	17.85
Punjab	4.93	2.62	7.55	2.93	0.63	3.56	7.86	3.25	11.11
Rajasthan	12.46	9.15	21.61	3.99	1.24	5.23	16.46	10.39	26.85
Tamil Nadu	10.21	7.81	18.02	9.52	3.78	13.3	19.73	11.59	31.32
Uttar Pradesh	36.97	16.21	53.17	11.02	2.1	13.12	47.99	18.3	66.29
West Bengal	18.25	5.43	23.69	7.92	1.87	9.79	26.18	7.3	33.47
Jharkhand	6.18	3.39	9.57	1.76	0.41	2.17	7.94	3.8	11.74
Chhattisgarh	5.02	4	9.02	1.35	0.41	1.77	6.37	4.41	10.79
Uttarakhand	1.76	1.42	3.19	0.7	0.15	0.86	2.47	1.58	4.05
Other NE	2.99	1.73	4.72	0.75	0.34	1.09	3.74	2.08	5.81
Other states	0.81	0.24	1.05	5.29	0.83	6.12	6.1	1.07	7.17
Total	221.98	125.09	347.07	93.96	25.75	119.71	315.94	150.83	466.78

Source: NSSO 61st Round Survey on Employment-Unemployment. Computed

Appendix 4.4: Labour Force Participation Rates by Sector, Sex and Social Groups

Table 4.4.1: Labour Force Participation Rates of Rural Scheduled Castes

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	62.77	62.00	62.24	54.18	57.53	50.27	58.51	59.78	56.32
Assam	54.61	56.26	56.98	12.44	16.84	19.29	33.84	37.06	38.09
Bihar*	53.23	53.60	50.44	35.34	26.38	22.03	44.53	40.63	36.64
Gujarat	52.90	57.98	59.26	42.79	36.52	40.94	48.02	47.63	50.11
Haryana	44.51	44.72	52.36	27.52	25.40	30.07	36.95	35.63	42.16
Himachal Pradesh	56.62	60.85	56.41	46.47	47.68	46.23	51.84	54.32	51.49
Jammu & Kashmir	53.32	51.17	58.10	33.99	33.03	36.66	44.33	42.43	47.82
Karnataka	58.86	57.62	61.27	44.64	46.42	50.20	51.68	52.06	55.80
Kerala	53.78	58.03	62.31	42.65	37.60	41.94	48.09	47.72	52.01
Madhya Pradesh*	55.03	56.70	55.16	47.85	42.50	37.10	51.62	49.91	46.32
Maharashtra	56.65	54.60	56.57	51.83	49.00	49.18	54.27	51.94	52.97
Orissa	60.21	57.07	60.04	33.56	37.36	35.92	47.01	47.48	48.38
Punjab	57.45	52.82	56.89	32.53	20.59	28.37	45.84	37.95	43.36
Rajasthan	55.65	54.14	50.36	46.08	45.76	37.14	51.05	50.14	44.03
Tamil Nadu	61.55	62.63	58.02	52.20	55.02	48.03	56.97	58.79	52.94
Uttar Pradesh*	54.42	54.27	51.23	32.09	30.22	28.91	43.91	42.98	40.55
West Bengal	54.44	57.02	60.02	24.10	20.73	19.35	39.90	39.73	40.21
Other NE	55.28	52.65	60.39	7.00	13.73	14.37	31.67	33.60	38.30
Other states	56.36	51.61	50.82	39.31	15.78	24.59	48.73	34.83	40.48
Total	55.89	55.91	55.27	38.39	35.32	33.56	47.46	46.03	44.72

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

Source : NSSO 38th, 50th and 61st Round Survey on Employment-Unemployment. Computed.

Table 4.4.2: Labour Force Participation Rates of Urban Scheduled Castes

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	49.04	51.69	55.37	23.80	29.68	24.02	36.45	40.93	40.06
Assam	49.52	53.25	64.93	9.20	6.15	17.70	32.19	30.30	41.98
Bihar*	45.40	45.44	51.22	22.39	13.29	13.60	34.57	30.95	34.33
Gujarat	51.23	51.52	64.44	15.76	18.79	24.54	34.53	36.13	47.94
Haryana	54.40	50.76	49.94	11.72	20.12	18.97	34.91	36.93	36.20
Himachal Pradesh	53.51	47.80	62.22	18.85	24.35	26.00	38.53	36.88	47.85
Jammu & Kashmir	59.93	48.73	57.37	23.30	17.41	14.72	44.77	33.86	38.64
Karnataka	46.64	53.98	57.59	23.64	27.61	23.98	35.80	41.07	40.33
Kerala	57.79	60.49	65.51	41.80	31.53	36.72	50.30	46.13	51.42
Madhya Pradesh*	47.54	48.64	56.91	22.12	17.68	20.00	35.36	33.81	39.07
Maharashtra	51.22	51.38	56.14	22.43	23.28	22.99	37.64	38.09	40.36
Orissa	51.66	50.33	58.32	16.76	20.44	23.88	35.96	35.99	42.60
Punjab	52.48	54.99	60.63	16.96	11.30	14.38	36.28	35.19	40.68
Rajasthan	47.20	50.59	52.92	25.76	21.83	24.53	37.02	36.46	39.70
Tamil Nadu	56.88	57.22	58.77	27.16	31.57	33.65	42.30	44.53	46.68
Uttar Pradesh*	51.59	51.59	52.73	19.69	13.85	14.26	36.78	33.74	35.24
West Bengal	58.21	57.61	62.50	17.94	21.21	18.80	41.17	41.53	42.89
Other NE	46.48	54.79	60.85	7.48	16.30	15.75	29.18	36.27	39.92
Other states	53.93	58.04	54.93	15.82	13.70	11.59	37.36	39.12	36.05
Total	51.73	52.97	56.85	21.02	20.64	21.05	37.47	37.77	40.24

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

Source: ibid

Table 4.4.3: Labour Force Participation Rates of all Scheduled Castes

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	60.76	60.54	60.88	49.69	53.71	45.19	55.26	57.15	53.14
Assam	53.51	55.98	58.48	11.87	15.86	19.00	33.51	36.43	38.81
Bihar*	52.64	52.92	50.51	34.43	25.39	21.36	43.81	39.86	36.44
Gujarat	52.35	55.51	60.66	34.23	29.94	37.54	43.68	43.29	49.59
Haryana	46.28	45.88	51.81	24.58	24.45	27.67	36.58	35.87	40.84
Himachal Pradesh	56.43	59.83	56.89	44.98	46.05	45.01	51.06	53.03	51.22
Jammu & Kashmir	53.83	50.91	57.96	33.30	31.43	33.15	44.36	41.53	46.24
Karnataka	55.55	56.82	60.40	39.49	42.35	43.62	47.58	49.65	52.03
Kerala	54.36	58.52	62.93	42.55	36.42	40.99	48.39	47.41	51.90
Madhya Pradesh*	53.35	54.79	55.51	41.98	36.62	33.74	47.94	46.10	44.88
Maharashtra	54.89	53.37	56.36	42.82	39.23	36.62	49.02	46.67	46.84
Orissa	59.32	56.40	59.81	32.08	35.72	34.44	45.95	46.36	47.63
Punjab	56.29	53.28	57.92	29.00	18.67	24.97	43.64	37.37	42.66
Rajasthan	53.83	53.39	50.92	41.79	40.50	34.50	48.06	47.21	43.11
Tamil Nadu	60.72	61.28	58.27	47.72	49.37	43.54	54.35	55.30	50.91
Uttar Pradesh*	54.10	53.96	51.41	30.72	28.26	27.25	43.12	41.88	39.92
West Bengal	55.06	57.12	60.57	23.26	20.81	19.24	40.10	40.03	40.77
Other NE	54.30	52.99	60.47	7.05	14.13	14.58	31.41	34.02	38.56
Other states	54.32	57.06	54.56	19.69	14.06	12.59	39.19	38.42	36.42
Total	55.14	55.36	55.62	35.43	32.67	30.93	45.71	44.51	43.75

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

Source: *ibid.*

Table 4.4.4: Labour Force Participation Rates of Rural Scheduled Tribes

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	63.06	68.84	56.97	57.12	63.16	53.07	60.11	66.02	55.06
Assam	50.62	50.77	58.09	13.85	17.40	26.47	33.32	34.91	43.14
Bihar*	58.85	55.84	57.89	53.04	33.75	39.51	56.06	45.04	48.90
Gujarat	59.96	58.66	59.47	45.70	50.05	51.41	52.94	54.49	55.42
Haryana	42.78	40.44	44.70	20.72	31.26	50.00	29.46	36.27	47.48
Himachal Pradesh	60.24	59.66	51.24	58.05	60.71	55.33	59.20	60.18	53.34
Jammu & Kashmir	48.53	47.58	36.37	19.47	52.33	32.84	34.87	49.53	35.16
Karnataka	57.48	61.96	60.31	37.24	42.17	52.64	47.40	52.53	56.71
Kerala	64.39	56.25	64.03	36.65	45.82	43.81	51.28	51.30	53.60
Madhya Pradesh*	58.84	61.51	54.91	51.31	51.91	48.35	55.11	56.75	51.69
Maharashtra	59.80	57.63	57.03	54.30	51.78	53.00	57.07	54.76	55.10
Orissa	62.59	61.94	60.58	46.81	53.34	50.64	54.75	57.69	55.67
Punjab	61.64	51.32	76.93	25.23	32.60	18.45	45.17	42.60	45.50
Rajasthan	60.04	59.22	51.39	61.07	56.74	49.75	60.54	57.98	50.60
Tamil Nadu	70.86	55.59	61.53	61.05	46.98	59.83	65.63	51.23	60.66
Uttar Pradesh*	53.99	49.00	61.24	20.90	27.98	37.88	38.97	38.28	49.83
West Bengal	59.03	61.01	55.74	39.63	45.76	34.55	49.51	53.07	45.60
Other NE	54.85	53.01	56.58	37.06	37.14	44.32	46.02	45.36	50.61
Other states	52.42	56.79	55.47	41.23	49.11	36.65	47.37	53.24	46.32
Total	58.98	59.28	56.79	47.34	47.74	46.54	53.27	53.59	51.80

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

Source: ibid.

Table 4.4.5: Labour Force Participation Rates of Urban Scheduled Tribes

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	48.14	59.04	57.30	31.91	30.07	16.14	40.39	45.52	33.98
Assam	48.31	53.05	52.13	7.52	7.36	13.68	30.77	31.28	36.43
Bihar*	55.59	50.09	46.22	28.77	16.97	25.59	42.69	33.55	35.33
Gujarat	73.77	64.84	61.97	32.48	34.64	36.86	59.60	50.47	51.05
Haryana**	-	-	-	-	-	-	-	-	-
Himachal Pradesh**	-	-	-	-	-	-	-	-	-
Jammu & Kashmir**	-	-	-	-	-	-	-	-	-
Karnataka	57.00	60.11	64.17	21.69	25.61	30.28	39.52	43.45	45.30
Kerala**	-	-	-	-	-	-	-	-	-
Madhya Pradesh*	47.71	49.87	52.46	20.75	20.71	19.47	36.08	36.82	37.00
Maharashtra	50.81	51.96	53.96	26.55	27.02	27.16	39.16	39.56	41.23
Orissa	57.54	55.04	57.02	24.62	27.80	30.32	41.43	42.03	43.24
Punjab**	-	-	-	-	-	-	-	-	-
Rajasthan	59.29	56.61	50.85	42.28	14.69	26.84	51.90	36.99	40.17
Tamil Nadu	57.54	68.38	57.26	34.72	19.78	33.93	46.95	43.29	46.50
Uttar Pradesh*	52.76	59.49	54.00	12.44	27.10	17.53	34.73	44.18	34.10
West Bengal	55.54	49.49	56.44	22.41	19.99	15.03	39.89	34.18	37.12
Other NE	44.19	44.23	45.09	20.70	22.40	29.07	32.38	33.52	37.25
Other states	74.19	56.62	46.80	23.53	11.61	11.04	53.17	35.37	32.91
Total	54.89	54.14	53.45	25.56	23.61	25.51	41.56	39.46	39.90

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

**Sample size inadequate to have reliable estimates

Source: *ibid.*

Table 4.4.6: Labour Force Participation Rates of all Scheduled Tribes

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	61.21	67.79	57.01	54.20	59.99	47.18	57.75	63.94	52.09
Assam	50.60	50.86	57.68	13.81	17.02	25.78	33.30	34.77	42.73
Bihar*	58.63	55.38	56.81	51.40	32.34	38.03	55.15	44.10	47.55
Gujarat	61.84	59.26	59.86	44.67	48.60	49.63	53.66	54.11	54.82
Haryana	44.24	40.78	51.92	15.57	29.36	48.05	28.78	35.65	50.04
Himachal Pradesh	60.49	58.99	49.28	57.83	60.57	53.35	59.22	59.77	51.37
Jammu & Kashmir	46.08	44.79	36.78	17.13	46.39	36.88	32.93	45.46	36.81
Karnataka	57.44	61.69	60.77	35.89	39.73	49.03	46.72	51.21	55.12
Kerala	63.59	58.83	64.07	35.26	43.32	44.97	50.31	51.48	54.14
Madhya Pradesh*	58.12	60.68	54.74	49.75	50.05	46.55	54.00	55.44	50.74
Maharashtra	58.48	56.75	56.51	50.44	47.86	48.72	54.51	52.38	52.79
Orissa	62.26	61.45	60.34	45.37	51.64	49.12	53.87	56.62	54.78
Punjab	52.85	58.06	69.30	21.16	27.10	10.95	38.11	43.97	36.33
Rajasthan	60.00	59.13	51.34	60.27	55.39	47.83	60.13	57.26	49.66
Tamil Nadu	64.79	59.47	59.39	50.83	38.50	48.16	57.76	48.79	53.90
Uttar Pradesh*	53.80	50.21	60.23	19.62	27.89	34.46	38.32	38.92	47.41
West Bengal	58.66	60.17	55.79	37.88	43.90	33.14	48.50	51.70	44.97
Other NE	53.08	51.43	54.53	34.28	34.42	41.59	43.73	43.20	48.22
Other states	59.92	56.72	50.76	35.71	32.88	25.29	49.28	45.60	39.62
Total	58.59	58.78	56.42	45.52	45.51	44.24	52.22	52.26	50.49

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

Source: *ibid.*

Table 4.4.7: Labour Force Participation Rates of Rural Muslims

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	57.53	59.96	54.85	35.06	36.17	40.68	46.26	47.75	48.01
Assam	50.82	52.97	54.62	6.07	11.15	13.43	29.31	32.85	34.64
Bihar*	48.14	49.79	42.35	17.45	12.23	11.46	32.56	31.05	27.11
Gujarat	55.25	54.41	62.87	30.97	25.76	32.10	42.67	40.34	47.98
Haryana**	-	-	-	-	-	-	-	-	-
Himachal Pradesh**	-	-	-	-	-	-	-	-	-
Jammu & Kashmir	55.10	59.87	54.66	23.66	50.27	20.14	40.49	55.61	38.07
Karnataka	55.18	56.60	60.35	28.78	27.62	34.89	42.62	42.18	48.23
Kerala	44.34	46.50	48.92	19.38	14.71	17.66	31.50	30.07	32.01
Madhya Pradesh*	52.89	50.57	55.22	31.75	32.28	27.83	42.19	41.74	42.02
Maharashtra	50.85	51.06	47.88	35.94	31.92	27.70	43.60	41.47	38.45
Orissa**	-	-	-	-	-	-	-	-	-
Punjab**	-	-	-	-	-	-	-	-	-
Rajasthan	55.17	45.13	48.30	46.17	29.59	23.30	50.83	37.85	36.00
Tamil Nadu	51.70	47.24	48.93	21.41	25.08	14.13	35.72	35.87	31.79
Uttar Pradesh*	51.53	48.77	45.76	19.65	14.15	19.25	36.28	32.16	33.10
West Bengal	54.61	52.19	55.35	13.75	10.52	13.58	34.58	31.84	34.75
Other NE	48.86	47.20	50.84	11.83	18.13	12.14	31.59	33.47	32.56
Other states	51.22	65.16	84.19	34.65	36.48	30.66	43.74	56.98	68.49
Total	51.76	50.52	50.43	20.10	16.45	18.34	36.23	33.81	34.74

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

**Sample size inadequate to have reliable estimates

Source: *ibid.*

Table 4.4.8: Labour Force Participation Rates of Urban Muslims

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	52.71	53.99	54.88	13.27	13.36	12.91	33.43	33.73	35.15
Assam	50.59	58.21	63.40	8.92	12.00	7.47	30.88	37.57	37.44
Bihar	51.06	45.42	52.02	10.19	4.83	8.51	31.58	26.96	31.82
Gujarat	46.09	53.60	56.53	10.98	14.86	8.21	28.27	34.68	32.95
Haryana**	-	-	-	-	-	-	-	-	-
Himachal Pradesh**	-	-	-	-	-	-	-	-	-
Jammu & Kashmir	55.96	37.88	54.87	11.45	39.48	11.50	35.41	38.57	35.84
Karnataka	52.34	53.78	56.45	15.38	18.46	13.27	34.34	36.49	35.88
Kerala	48.05	52.06	49.99	13.59	14.70	14.14	31.18	32.08	31.50
Madhya Pradesh	48.53	52.73	53.11	11.80	11.41	14.40	32.08	32.80	34.34
Maharashtra	52.95	52.92	56.04	10.68	11.18	12.63	33.23	33.46	36.20
Orissa**	-	-	-	-	-	-	-	-	-
Punjab**	-	-	-	-	-	-	-	-	-
Rajasthan	46.44	48.21	50.07	15.54	17.34	12.68	31.75	33.81	32.35
Tamil Nadu	53.66	56.55	52.91	16.27	16.36	12.04	34.53	37.07	32.46
Uttar Pradesh	51.14	48.71	52.51	7.67	10.63	14.62	30.66	30.87	35.07
West Bengal	61.17	54.30	61.04	11.14	15.00	15.65	39.48	36.74	40.55
Other NE	52.66	51.16	49.96	33.64	19.30	23.74	44.75	37.59	38.30
Other states	58.25	56.27	60.57	9.17	10.45	3.58	37.15	36.98	35.70
Total	51.82	51.75	54.68	11.31	12.77	12.72	32.58	33.31	35.05

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

**Sample size inadequate to have reliable estimates

Source: ibid.

Table 4.4.9: Labour Force Participation Rates of all Muslims

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	54.88	56.65	54.86	23.35	23.84	26.94	39.28	40.08	41.56
Assam	50.81	53.26	55.21	6.20	11.19	13.05	29.38	33.10	34.82
Bihar*	48.78	48.97	43.53	16.01	11.02	11.14	32.35	30.33	27.66
Gujarat	49.61	53.86	59.57	18.86	18.36	19.57	33.88	36.49	40.12
Haryana	51.34	44.53	50.05	31.63	25.39	22.45	42.42	35.87	36.80
Himachal Pradesh	58.23	58.09	61.54	35.94	44.46	49.63	47.18	52.42	56.43
Jammu & Kashmir	55.29	58.21	54.72	21.08	49.50	18.02	39.42	54.35	37.49
Karnataka	53.90	55.00	57.97	22.58	22.51	21.69	38.84	38.99	40.70
Kerala	45.23	47.73	49.20	18.09	14.71	16.80	31.42	30.53	31.88
Madhya Pradesh*	49.73	51.90	53.76	18.28	19.50	18.50	35.10	36.26	36.69
Maharashtra	52.22	52.34	53.80	19.93	18.26	16.88	36.93	36.06	36.82
Orissa	46.18	38.69	49.75	2.68	6.11	17.21	24.47	22.51	34.07
Punjab	59.75	54.90	64.42	16.95	21.68	29.38	38.85	39.64	48.09
Rajasthan	51.25	46.35	49.24	32.60	24.79	17.85	42.31	36.26	34.10
Tamil Nadu	52.84	53.73	51.81	18.50	19.22	12.60	35.04	36.69	32.27
Uttar Pradesh*	51.38	48.75	48.30	15.02	12.88	17.59	34.09	31.69	33.82
West Bengal	55.58	52.56	56.24	13.43	11.20	13.86	35.25	32.64	35.60
Other NE	50.07	47.91	50.68	17.86	18.31	14.08	35.54	34.16	33.57
Other states	55.92	56.93	61.28	18.12	11.54	4.03	39.39	38.20	36.50
Total	51.78	50.97	51.97	17.12	15.17	16.41	34.97	33.63	34.85

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

Source: ibid.

Table 4.4.10: Labour Force Participation Rates of Rural Other Communities

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	60.88	63.48	61.88	45.18	50.30	48.10	53.11	56.99	55.02
Assam	51.04	55.24	57.17	15.82	20.43	27.37	34.12	38.29	42.68
Bihar*	50.52	51.55	50.53	19.35	12.76	15.02	35.37	33.06	33.53
Gujarat	54.40	58.11	59.67	40.24	37.63	41.50	47.51	48.12	50.97
Haryana	49.27	48.38	54.48	21.44	28.16	32.96	36.10	39.07	44.44
Himachal Pradesh	52.11	59.10	56.87	48.02	53.08	53.59	50.03	56.09	55.22
Jammu & Kashmir	58.01	52.34	59.20	37.49	41.36	39.08	47.80	47.13	49.29
Karnataka	59.89	62.23	63.94	39.00	44.17	45.26	49.57	53.31	54.61
Kerala	54.15	59.85	61.71	36.61	28.35	35.94	45.26	43.78	48.72
Madhya Pradesh*	55.16	56.02	55.62	37.14	34.61	35.26	46.41	45.69	45.81
Maharashtra	56.37	55.87	58.57	46.25	48.07	47.56	51.34	52.02	53.14
Orissa	56.33	56.54	60.60	21.55	21.26	27.89	38.91	38.86	44.23
Punjab	60.13	57.10	56.41	32.53	23.00	37.73	47.11	40.89	47.67
Rajasthan	54.23	53.92	52.42	43.47	44.28	40.89	49.06	49.33	46.85
Tamil Nadu	60.99	61.58	61.75	45.21	46.55	47.22	53.16	54.19	54.58
Uttar Pradesh*	53.54	52.88	50.46	24.71	20.23	24.48	39.97	37.54	38.08
West Bengal	55.56	58.91	61.56	16.48	17.13	18.43	36.50	38.68	40.74
Other NE	48.42	52.93	57.12	13.74	22.75	22.73	31.78	38.28	40.55
Other states	56.19	60.35	58.22	35.21	22.76	16.75	46.00	42.47	38.54
Total	55.37	56.27	56.13	32.78	31.82	33.35	44.37	44.44	45.07

Note: * Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand

Source: ibid

Table 4.4.11: Labour Force Participation Rates of Urban Other Communities

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	54.40	56.81	59.33	18.71	20.91	25.79	37.06	39.25	43.14
Assam	53.27	55.92	57.78	8.47	13.38	11.57	33.71	36.45	36.17
Bihar*	49.15	47.77	48.98	7.62	6.54	7.89	30.74	28.78	30.22
Gujarat	54.71	55.46	58.85	12.81	12.96	14.71	34.63	35.49	38.53
Haryana	56.12	53.84	53.38	11.57	14.33	13.56	35.44	35.30	35.45
Himachal Pradesh	58.57	50.91	64.30	17.58	19.46	26.55	40.43	36.79	47.72
Jammu & Kashmir	54.92	53.41	53.23	9.00	13.21	14.26	33.07	34.81	35.71
Karnataka	55.19	56.58	59.46	21.14	17.51	19.68	38.81	37.85	40.81
Kerala	57.39	61.54	60.36	28.39	27.10	35.02	42.43	44.14	47.57
Madhya Pradesh*	50.11	49.58	54.30	12.86	14.05	15.66	32.35	32.81	36.47
Maharashtra	55.00	55.85	59.25	15.38	17.94	20.35	36.86	38.25	41.51
Orissa	52.26	55.85	54.70	8.91	14.26	18.49	32.29	36.58	37.91
Punjab	57.11	57.55	58.12	12.64	9.49	16.10	36.39	35.10	38.94
Rajasthan	50.54	49.73	52.74	17.99	14.80	17.82	35.41	33.52	36.61
Tamil Nadu	58.59	60.98	62.36	22.52	24.67	25.16	41.04	43.12	44.15
Uttar Pradesh*	53.00	49.94	55.50	8.98	9.24	10.28	33.14	31.25	34.60
West Bengal	59.06	60.12	63.70	14.51	15.87	16.68	38.54	39.19	41.33
Other NE	51.59	51.01	55.72	14.86	16.65	22.17	34.61	34.76	39.88
Other states	56.98	54.19	56.08	11.37	11.88	11.66	36.07	34.48	35.94
Total	54.89	55.09	57.80	15.45	16.05	17.92	36.40	36.64	39.17

Note: *Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh include Uttarakhand

Source: ibid.

Table 4.4.12: Labour Force Participation Rates of all Other Communities

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	59.30	61.56	61.17	38.89	41.95	42.14	49.25	51.92	51.78
Assam	51.40	55.36	57.30	14.81	19.29	24.22	34.06	37.98	41.34
Bihar*	50.33	50.99	50.27	17.93	11.88	13.94	34.77	32.44	33.00
Gujarat	54.50	57.10	59.30	31.14	28.66	29.97	43.18	43.42	45.49
Haryana	50.97	49.99	54.10	19.05	23.97	26.54	35.94	37.95	41.39
Himachal Pradesh	52.74	58.23	57.81	45.69	50.12	50.87	49.20	54.22	54.37
Jammu & Kashmir	57.14	52.64	57.44	29.94	33.60	32.60	43.76	43.67	45.51
Karnataka	58.50	60.40	62.30	33.92	35.87	36.61	46.45	48.39	49.75
Kerala	54.82	60.33	61.34	34.86	28.00	35.69	44.67	43.88	48.41
Madhya Pradesh*	53.89	54.18	55.21	31.17	28.92	29.50	42.90	42.07	42.98
Maharashtra	55.86	55.86	58.86	35.69	36.57	36.81	46.12	46.57	48.32
Orissa	55.69	56.42	59.41	19.82	20.13	26.21	37.94	38.47	43.03
Punjab	59.22	57.26	57.11	26.68	18.19	29.09	43.93	38.80	44.12
Rajasthan	53.40	52.84	52.50	38.03	36.95	35.54	46.07	45.32	44.39
Tamil Nadu	60.14	61.35	62.06	37.36	38.13	36.23	48.91	49.93	49.36
Uttar Pradesh*	53.45	52.32	51.51	22.33	18.19	21.65	38.90	36.35	37.37
West Bengal	56.98	59.43	62.49	15.73	16.60	17.68	37.30	38.90	41.00
Other NE	49.29	52.46	56.67	14.03	21.31	22.55	32.53	37.43	40.34
Other states	56.85	55.24	56.39	15.93	13.80	12.46	37.88	35.86	36.33
Total	55.24	55.92	56.67	28.44	27.29	28.62	42.32	42.16	43.21

Note: * - Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh include Uttarakhand

Source: ibid.

Appendix 4.5: Classification of States by Level and Change in LFPR of Different Social Groups

Table 4.5.1: Classification of States by Level & Change in LFPR of Rural Scheduled Castes

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Gujarat, Karnataka, Jammu & Kashmir Kerala, Orissa	Andhra Pradesh, Himachal Pradesh Madhya Pradesh, Maharashtra, Tamil Nadu
Lower than national average in 2004-05	Assam, Haryana, West Bengal	Bihar, Punjab, Rajasthan, Uttar Pradesh

Source: *ibid.*

Table 4.5.2: Classification of States by Level & Change in LFPR of Urban Scheduled Castes

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Assam, Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Orissa Punjab, Tamil Nadu, West Bengal	
Lower than national average in 2004-05	Andhra Pradesh, Madhya Pradesh Rajasthan, Haryana	Bihar, Uttar Pradesh, Jammu & Kashmir

Source: *ibid.*

Table 4.5.3: Classification of States by Level & Change in LFPR of all Scheduled Castes

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Gujarat, Himachal Pradesh Jammu & Kashmir, Karnataka, Kerala, Orissa	Andhra Pradesh, Madhya Pradesh Maharashtra, Tamil Nadu
Lower than national average in 2004-05	Assam, Haryana, West Bengal	Bihar, Punjab, Rajasthan, Uttar Pradesh

Source: *ibid.*

Table 4.5.4: Classification of States by Level & Change in LFPR of Rural Scheduled Tribes

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Gujarat, Karnataka, Kerala, Orissa	Andhra Pradesh, Maharashtra Himachal Pradesh, Tamil Nadu
Lower than national average in 2004-05	Assam, Haryana, Jammu & Kashmir Punjab, Uttar Pradesh	Bihar, Rajasthan Madhya Pradesh, West Bengal

Source: *ibid.*

Table 4.5.5: Classification of States by Level & Change in LFPR of Urban Scheduled Tribes

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Karnataka, Maharashtra, Orissa	Gujarat, Rajasthan, Tamil Nadu
Lower than national average in 2004-05	Assam, Madhya Pradesh	Andhra Pradesh, Bihar, Uttar Pradesh, West Bengal

Source: *ibid.***Table 4.5.6: Classification of States by Level & Change in LFPR of all Scheduled Tribes**

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Gujarat, Karnataka, Kerala, Orissa	Andhra Pradesh, Himachal Pradesh Madhya Pradesh, Maharashtra, Tamil Nadu
Lower than national average in 2004-05	Assam, Haryana, Jammu & Kashmir Uttar Pradesh	Bihar, Punjab, Rajasthan West Bengal

Source: *ibid.***Table 4.5.7: Classification of States by Level & Change in LFPR of Rural Muslims**

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Andhra Pradesh, Gujarat, Karnataka, West Bengal	Jammu & Kashmir, Madhya Pradesh Maharashtra, Rajasthan
Lower than national average in 2004-05	Assam, Kerala	Bihar, Tamil Nadu, Uttar Pradesh

Source: *ibid.***Table 4.5.8: Classification of States by Level & Change in LFPR of Urban Muslims**

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Andhra Pradesh, Gujarat, Karnataka, West Bengal	Jammu & Kashmir, Madhya Pradesh Maharashtra, Rajasthan
Lower than national average in 2004-05	Assam, Kerala	Bihar, Tamil Nadu, Uttar Pradesh

Source: *ibid.*

Table 4.5.9: Classification of States by Level & Change in LFPR of all Muslims

Level of LFPR	Change in LFPR between 1983 and 2004-05	
	Positive	Negative
Higher than national average in 2004-05	Andhra Pradesh, Gujarat, Himachal Pradesh Karnataka, Madhya Pradesh, Punjab, West Bengal	Haryana, Jammu & Kashmir Maharashtra
Lower than national average in 2004-05	Assam, Kerala, Orissa	Bihar, Rajasthan Tamil Nadu, Uttar Pradesh

Source: *ibid.*

Appendix 4.6: State-wise Distribution of Labour Force by Education (million)

State	Illiterates	Primary & Below	Least Educated	Middle	Secondary & HS	Graduate & Above	Total
Andhra Pradesh	21.01	8.44	29.46	4.29	4.79	1.91	40.45
Assam	2.28	4.41	6.69	2.37	1.55	0.52	11.13
Bihar	13.31	5.98	19.30	3.22	4.12	1.44	28.08
Gujarat	7.93	6.17	14.10	4.68	4.73	1.55	25.07
Haryana	3.07	2.20	5.27	1.03	2.24	0.72	9.26
Himachal Pradesh	0.85	1.06	1.91	0.41	0.86	0.21	3.38
Jammu & Kashmir	1.74	0.87	2.61	0.88	0.81	0.23	4.53
Karnataka	10.83	6.15	16.98	4.48	4.17	1.59	27.23
Kerala	0.97	3.89	4.86	4.73	4.00	1.21	14.80
Madhya Pradesh	13.24	7.47	20.70	2.85	2.95	1.71	28.21
Maharashtra	13.19	10.69	23.88	10.63	9.73	3.95	48.19
Orissa	7.63	4.66	12.29	2.94	1.69	0.93	17.85
Punjab	3.31	2.68	5.98	1.34	2.96	0.82	11.11
Rajasthan	14.41	5.73	20.14	3.01	2.51	1.18	26.85
Tamil Nadu	8.77	9.66	18.43	4.90	5.45	2.54	31.32
Uttar Pradesh	30.72	13.33	44.05	9.64	8.69	3.90	66.29
West Bengal	10.04	11.63	21.67	4.98	4.27	2.54	33.47
Jharkhand	5.59	2.43	8.02	1.61	1.45	0.66	11.74
Chhattisgarh	4.71	3.30	8.01	1.23	1.03	0.52	10.79
Uttarakhand	1.37	0.86	2.23	0.73	0.76	0.33	4.05
Other NE	1.21	2.07	3.27	1.20	0.93	0.41	5.81
Other states	0.90	1.44	2.34	1.12	2.02	1.69	7.17
Total	177.08	115.12	292.19	72.28	71.72	30.58	466.78

Source: *ibid.*

Appendix 4.7: Percentage Distribution of Labour Force by Level of Education

Table 4.7.1 Percentage Distribution of illiterate Labour Force in Rural Areas

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	65.29	56.19	46.29	91.47	84.93	74.03	76.56	68.99	58.44
Assam	37.02	28.35	19.18	70.02	57.23	29.96	43.24	34.99	22.03
Bihar	62.23	54.28	40.91	95.06	92.77	82.51	72.58	63.34	51.27
Gujarat	47.02	35.80	26.02	77.70	72.83	62.54	59.78	50.35	40.77
Haryana	48.98	38.47	26.90	88.29	77.24	61.38	60.67	51.40	38.67
Himachal Pradesh	44.32	28.71	16.11	68.58	52.81	35.99	55.69	39.89	25.55
Jammu & Kashmir	63.18	41.58	36.77	86.29	71.76	56.87	70.48	53.75	43.01
Karnataka	54.17	47.28	38.28	82.66	75.56	64.45	65.30	58.84	49.22
Kerala	12.53	6.14	5.36	26.10	14.55	10.56	17.97	8.88	7.26
Madhya Pradesh	60.42	52.06	37.56	92.73	87.59	75.99	74.08	66.36	52.93
Maharashtra	43.34	33.79	23.32	80.29	68.68	52.79	60.03	49.62	36.34
Orissa	50.79	45.88	34.01	91.15	86.72	67.13	64.31	60.31	46.05
Punjab	51.64	44.51	31.84	75.65	62.76	45.19	59.47	49.31	36.47
Rajasthan	66.60	54.71	42.11	95.37	92.46	83.03	79.23	71.23	59.43
Tamil Nadu	40.95	32.64	26.56	77.11	67.20	53.63	56.39	47.69	38.29
Uttar Pradesh	57.77	48.17	37.77	91.04	89.06	77.67	67.74	59.24	50.25
West Bengal	42.38	35.59	30.56	80.90	70.13	57.17	52.07	43.83	36.66
Other NE	35.72	29.48	18.58	60.01	55.06	32.50	43.12	38.08	23.69
Other states	35.97	21.32	14.03	73.44	53.29	39.89	49.87	29.88	19.89
Total	52.35	43.81	33.67	84.16	77.80	65.11	64.05	55.86	45.00

Source: *ibid.*

Table 4.7.2 Percentage Distribution of illiterate Labour Force in Urban Areas

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	27.83	25.05	19.84	71.23	62.91	51.65	38.65	34.96	28.54
Assam	13.88	10.18	8.09	38.71	22.45	21.81	16.70	12.13	10.14
Bihar	32.43	25.71	15.44	80.26	58.00	49.88	39.73	29.60	20.34
Gujarat	18.70	12.98	8.02	56.52	44.57	31.28	25.68	19.12	12.26
Haryana	25.78	19.31	14.13	51.33	48.00	33.64	29.63	25.12	17.66
Himachal Pradesh	10.79	11.57	15.91	32.49	36.35	31.58	15.17	17.67	19.74
Jammu & Kashmir	37.05	10.95	20.79	53.40	32.25	34.18	39.42	15.01	22.86
Karnataka	22.96	20.57	10.14	55.15	48.91	34.31	31.35	27.44	15.73
Kerala	6.82	3.32	3.16	18.50	9.89	7.22	10.62	5.31	4.57
Madhya Pradesh	22.64	18.04	13.20	69.78	58.72	44.32	32.51	26.61	19.69
Maharashtra	14.14	12.23	8.42	52.14	39.53	25.43	21.69	18.22	12.26
Orissa	21.39	18.47	14.51	75.79	58.01	40.62	30.22	26.59	20.86
Punjab	27.24	19.15	14.47	45.80	29.61	20.46	30.47	20.50	15.53
Rajasthan	33.88	23.38	20.52	83.98	66.56	59.93	46.82	33.08	29.85
Tamil Nadu	16.65	13.56	8.65	51.83	41.25	27.69	26.19	21.44	14.06
Uttar Pradesh	33.38	28.20	22.24	71.35	61.72	51.46	38.66	33.30	26.94
West Bengal	16.73	14.50	11.28	37.24	36.22	24.89	20.26	18.80	13.88
Other NE	13.91	8.29	6.12	32.85	20.16	12.16	18.59	11.43	8.02
Other states	19.48	20.41	8.79	38.57	32.69	26.82	22.39	22.31	11.24
Total	22.17	18.07	12.84	56.22	45.68	34.30	29.14	23.94	17.45

Source: *ibid.*

Table 4.7.3 Percentage Distribution of all illiterate Labour Force

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	57.04	48.50	39.32	89.23	82.15	70.73	69.87	62.27	51.96
Assam	34.37	26.08	17.59	67.93	54.35	29.34	40.42	32.35	20.53
Bihar	58.39	50.72	37.40	94.25	90.70	80.09	69.08	59.63	47.47
Gujarat	37.93	27.87	18.96	74.94	68.16	57.07	51.15	41.41	31.65
Haryana	43.06	33.00	22.96	83.66	72.31	56.95	53.82	44.83	33.12
Himachal Pradesh	41.26	27.26	16.08	67.57	52.26	35.78	53.15	38.53	25.03
Jammu & Kashmir	57.45	34.81	32.54	83.21	68.20	53.98	64.77	47.05	38.44
Karnataka	45.46	39.17	28.68	77.84	71.08	59.08	57.09	50.86	39.78
Kerala	11.31	5.37	4.79	24.85	13.38	9.75	16.54	7.93	6.58
Madhya Pradesh	53.09	44.74	31.28	90.89	84.77	72.17	67.87	59.53	46.01
Maharashtra	32.69	25.03	16.59	76.14	63.19	46.42	49.22	39.44	27.37
Orissa	47.33	42.08	31.07	90.40	84.69	64.72	61.04	56.41	42.78
Punjab	45.03	36.43	25.36	71.49	57.35	40.38	52.72	41.14	29.75
Rajasthan	60.03	47.87	36.87	94.23	90.02	80.28	74.05	64.81	53.67
Tamil Nadu	33.07	25.60	17.91	72.22	61.19	45.17	48.11	39.40	28.00
Uttar Pradesh	53.29	44.28	34.16	89.50	86.20	74.70	63.24	54.77	45.62
West Bengal	34.86	29.47	24.73	72.00	61.87	48.91	43.40	36.83	30.00
Other NE	31.15	25.35	16.09	55.51	49.93	29.15	38.29	33.29	20.76
Other states	22.63	20.58	9.49	53.79	39.00	29.73	29.02	23.85	12.50
Total	45.09	37.08	27.48	80.73	73.03	59.85	57.03	48.67	37.94

Source: *ibid.*

Table 4.7.4 Percentage Distribution of Rural Labour Force with Primary & below Education

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	23.30	25.70	24.48	7.05	11.63	15.71	16.30	19.43	20.64
Assam	40.55	40.05	43.03	22.51	26.15	41.35	37.15	36.85	42.59
Bihar	17.89	19.82	25.58	3.31	4.33	10.54	13.29	16.18	21.83
Gujarat	34.06	36.27	30.94	17.61	18.43	19.59	27.22	29.26	26.36
Haryana	23.55	27.95	28.87	9.05	13.59	19.59	19.23	23.16	25.70
Himachal Pradesh	31.55	35.05	34.54	22.44	30.27	30.13	27.28	32.83	32.45
Jammu & Kashmir	17.51	22.45	19.90	8.87	16.55	18.50	14.78	20.07	19.46
Karnataka	27.68	27.07	27.51	13.01	15.93	18.48	21.95	22.52	23.74
Kerala	50.64	38.21	28.85	44.56	40.58	26.22	48.20	38.99	27.89
Madhya Pradesh	29.04	31.07	35.14	6.30	10.34	18.03	19.42	22.73	28.30
Maharashtra	36.74	31.33	25.80	15.93	20.34	22.07	27.34	26.35	24.15
Orissa	35.24	33.18	31.99	7.23	9.90	17.83	25.86	24.96	26.85
Punjab	27.19	22.23	26.09	15.59	19.80	24.22	23.41	21.59	25.44
Rajasthan	21.86	25.93	28.21	3.76	5.67	11.05	13.92	17.06	20.94
Tamil Nadu	39.93	37.81	37.15	18.15	21.82	27.42	30.63	30.85	32.93
Uttar Pradesh	23.60	21.81	23.00	6.89	7.28	11.74	18.59	17.88	19.48
West Bengal	37.23	38.46	40.38	14.42	21.19	29.64	31.50	34.34	37.92
Other NE	43.53	38.96	39.77	30.01	28.39	38.38	39.41	35.41	39.26
Other states	33.85	28.82	24.10	14.88	18.12	20.41	26.81	25.96	23.27
Total	29.41	28.84	29.32	11.80	14.57	18.82	22.93	23.78	25.53

Source: *ibid.*

Table 4.7.5 Percentage Distribution of Urban Labour Force with Primary & below Education

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	29.40	25.98	22.46	14.44	18.24	19.69	25.67	23.95	21.71
Assam	26.05	21.67	18.86	16.96	15.39	19.05	25.02	20.67	18.89
Bihar	22.24	19.02	16.03	10.21	12.73	16.38	20.41	18.26	16.08
Gujarat	35.46	32.79	21.14	20.04	24.16	19.71	32.62	31.12	20.88
Haryana	27.53	20.56	19.51	14.55	17.83	13.03	25.57	20.01	18.33
Himachal Pradesh	19.59	18.25	21.23	7.96	25.46	16.29	17.24	20.03	20.02
Jammu & Kashmir	17.72	16.73	19.40	8.30	15.64	13.76	16.35	16.52	18.53
Karnataka	27.35	20.00	20.64	21.22	16.45	16.26	25.75	19.14	19.63
Kerala	43.42	32.07	22.68	33.52	29.60	19.08	40.20	31.32	21.44
Madhya Pradesh	33.61	29.65	26.16	16.14	14.26	20.64	29.95	26.41	25.01
Maharashtra	28.78	22.40	18.31	20.59	17.03	20.85	27.15	21.22	18.88
Orissa	32.98	24.76	22.37	10.55	12.10	16.64	29.34	22.16	20.98
Punjab	27.35	22.48	23.04	14.54	16.27	13.17	25.12	21.68	21.29
Rajasthan	29.25	23.05	25.93	10.33	14.03	13.87	24.36	21.03	23.07
Tamil Nadu	38.22	34.77	27.12	26.75	28.94	30.14	35.11	33.11	27.98
Uttar Pradesh	24.89	21.58	23.79	11.92	14.92	18.60	23.09	20.56	22.96
West Bengal	34.33	29.60	27.19	28.45	24.87	26.61	33.32	28.66	27.08
Other NE	29.16	22.62	20.11	28.28	25.13	18.63	28.94	23.28	19.64
Other states	22.12	21.32	20.60	15.07	7.91	13.12	21.04	19.25	19.59
Total	30.16	25.56	22.55	19.75	19.67	20.62	28.03	24.31	22.14

Source: *ibid.*

Table 4.7.5 Percentage Distribution of Total Labour Force with Primary & below Education

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	24.64	25.76	23.95	7.87	12.47	16.29	17.96	20.33	20.87
Assam	38.88	37.76	39.58	22.14	25.26	39.67	35.86	34.99	39.60
Bihar	18.45	19.72	24.26	3.69	4.83	10.97	14.05	16.41	21.13
Gujarat	34.51	35.07	27.10	17.93	19.38	19.62	28.58	29.79	24.60
Haryana	24.56	25.85	25.98	9.74	14.30	18.54	20.63	22.37	23.76
Himachal Pradesh	30.46	33.64	32.88	22.04	30.10	29.46	26.65	32.04	31.33
Jammu & Kashmir	17.56	21.19	19.77	8.81	16.47	17.89	15.07	19.46	19.25
Karnataka	27.59	24.92	25.17	14.45	16.02	18.09	22.87	21.66	22.58
Kerala	49.09	36.54	27.27	42.76	37.83	24.50	46.64	36.95	26.27
Madhya Pradesh	29.92	30.76	32.83	7.09	10.72	18.35	21.00	23.36	27.61
Maharashtra	33.84	27.70	22.42	16.62	19.72	21.78	27.29	24.69	22.19
Orissa	34.98	32.02	30.55	7.39	10.06	17.72	26.19	24.63	26.08
Punjab	27.24	22.31	24.95	15.44	19.22	22.07	23.81	21.61	24.11
Rajasthan	23.34	25.30	27.65	4.42	6.45	11.38	15.59	17.73	21.36
Tamil Nadu	39.37	36.69	32.31	19.82	23.47	28.31	31.86	31.56	30.83
Uttar Pradesh	23.84	21.77	23.19	7.28	8.08	12.52	19.29	18.34	20.17
West Bengal	36.38	35.89	36.39	17.28	22.09	28.86	31.99	32.75	34.75
Other NE	40.51	35.77	35.84	29.72	27.91	35.12	37.35	33.23	35.58
Other states	24.36	22.68	21.07	14.98	11.04	14.75	22.43	20.61	20.13
Total	29.59	27.98	27.30	12.78	15.33	19.13	23.96	23.90	24.66

Source: *ibid.*

Table 4.7.7 Percentage Distribution of Least Educated Labour Force in Rural Areas

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	88.59	81.88	70.78	98.52	96.57	89.74	92.86	88.42	79.08
Assam	77.57	68.40	62.21	92.53	83.38	71.31	80.39	71.85	64.61
Bihar	80.12	74.10	66.49	98.37	97.10	93.05	85.87	79.52	73.10
Gujarat	81.08	72.07	56.96	95.32	91.26	82.13	87.00	79.61	67.13
Haryana	72.53	66.42	55.76	97.34	90.82	80.98	79.91	74.56	64.37
Himachal Pradesh	75.88	63.76	50.65	91.02	83.08	66.12	82.98	72.72	58.00
Jammu & Kashmir	80.70	64.03	56.67	95.15	88.30	75.37	85.26	73.82	62.48
Karnataka	81.85	74.35	65.80	95.68	91.49	82.94	87.25	81.35	72.96
Kerala	63.17	44.35	34.21	70.66	55.13	36.78	66.17	47.87	35.15
Madhya Pradesh	89.46	83.13	72.71	99.03	97.93	94.03	93.51	89.09	81.23
Maharashtra	80.08	65.12	49.12	96.22	89.02	74.85	87.37	75.97	60.49
Orissa	86.03	79.06	66.00	98.38	96.62	84.95	90.17	85.27	72.89
Punjab	78.83	66.74	57.92	91.24	82.55	69.41	82.88	70.90	61.91
Rajasthan	88.46	80.64	70.32	99.13	98.12	94.08	93.14	88.29	80.38
Tamil Nadu	80.88	70.46	63.71	95.26	89.02	81.05	87.02	78.54	71.22
Uttar Pradesh	81.37	69.99	60.77	97.93	96.35	89.40	86.33	77.12	69.73
West Bengal	79.61	74.05	70.94	95.32	91.32	86.80	83.56	78.17	74.58
Other NE	79.25	68.44	58.35	90.01	83.45	70.88	82.53	73.49	62.95
Other states	69.81	50.15	38.13	88.31	71.41	60.30	76.68	55.84	43.15
Total	81.76	72.65	62.99	95.97	92.37	83.92	86.99	79.64	70.53

Source: *ibid.*

Table 4.7.8 Percentage Distribution of Least Educated Labour Force in Urban Areas

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	57.22	51.03	42.31	85.68	81.15	71.34	64.32	58.91	50.24
Assam	39.93	31.86	26.95	55.67	37.84	40.86	41.72	32.81	29.03
Bihar	54.68	44.73	31.47	90.47	70.74	66.26	60.14	47.86	36.42
Gujarat	54.17	45.77	29.16	76.55	68.73	50.99	58.30	50.23	33.14
Haryana	53.30	39.87	33.64	65.89	65.83	46.66	55.20	45.13	36.00
Himachal Pradesh	30.39	29.82	37.14	40.45	61.81	47.86	32.42	37.70	39.77
Jammu & Kashmir	54.76	27.68	40.20	61.71	47.89	47.94	55.77	31.54	41.39
Karnataka	50.31	40.57	30.78	76.38	65.36	50.57	57.10	46.58	35.36
Kerala	50.24	35.38	25.84	52.02	39.49	26.31	50.82	36.63	26.00
Madhya Pradesh	56.24	47.69	39.36	85.91	72.98	64.95	62.46	53.01	44.70
Maharashtra	42.92	34.63	26.74	72.72	56.55	46.29	48.84	39.44	31.15
Orissa	54.37	43.23	36.88	86.33	70.12	57.26	59.56	48.75	41.83
Punjab	54.59	41.63	37.51	60.34	45.89	33.63	55.59	42.18	36.82
Rajasthan	63.13	46.43	46.44	94.31	80.59	73.81	71.18	54.11	52.92
Tamil Nadu	54.88	48.32	35.77	78.58	70.19	57.83	61.30	54.54	42.04
Uttar Pradesh	58.27	49.78	46.03	83.27	76.64	70.06	61.74	53.86	49.90
West Bengal	51.06	44.10	38.47	65.69	61.09	51.50	53.58	47.46	40.96
Other NE	43.07	30.91	26.22	61.12	45.29	30.79	47.53	34.71	27.66
Other states	41.60	41.73	29.39	53.64	40.61	39.94	43.44	41.56	30.83
Total	52.33	43.63	35.39	75.97	65.35	54.92	57.17	48.24	39.59

Source: *ibid.*

Table 4.7.9 Percentage Distribution of Least Educated Total Labour Force

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	81.68	74.27	63.27	97.10	94.62	87.03	87.83	82.59	72.83
Assam	73.26	63.84	57.17	90.07	79.61	69.01	76.29	67.34	60.13
Bihar	76.84	70.44	61.66	97.94	95.53	91.06	83.13	76.03	68.60
Gujarat	72.44	62.94	46.06	92.87	87.54	76.68	79.74	71.20	56.25
Haryana	67.62	58.85	48.94	93.40	86.62	75.49	74.45	67.20	56.88
Himachal Pradesh	71.72	60.90	48.96	89.61	82.36	65.24	79.81	70.57	56.36
Jammu & Kashmir	75.01	56.00	52.30	92.02	84.66	71.88	79.84	66.50	57.69
Karnataka	73.05	64.09	53.84	92.29	87.09	77.16	79.96	72.52	62.36
Kerala	60.40	41.91	32.07	67.61	51.20	34.25	63.19	44.89	32.85
Madhya Pradesh	83.01	75.51	64.11	97.98	95.49	90.52	88.87	82.89	73.62
Maharashtra	66.54	52.73	39.01	92.76	82.91	68.20	76.51	64.13	49.55
Orissa	82.30	74.10	61.62	97.79	94.75	82.44	87.24	81.04	68.86
Punjab	72.26	58.74	50.31	86.93	76.57	62.45	76.53	62.75	53.86
Rajasthan	83.37	73.17	64.52	98.65	96.47	91.66	89.63	82.54	75.02
Tamil Nadu	72.44	62.29	50.23	92.03	84.66	73.48	79.97	70.97	58.83
Uttar Pradesh	77.13	66.05	57.35	96.78	94.28	87.21	82.53	73.11	65.79
West Bengal	71.25	65.36	61.12	89.28	83.96	77.78	75.39	69.59	64.75
Other NE	71.66	61.12	51.94	85.23	77.85	64.27	75.64	66.52	56.34
Other states	46.99	43.25	30.56	68.77	50.04	44.48	51.46	44.46	32.63
Total	74.68	65.06	54.78	93.51	88.36	78.97	80.99	72.57	62.60

Source: *ibid.*

Table 4.7.10 Percentage Distribution of Rural Labour Force with Middle Level of Education

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	5.96	8.55	13.23	1.00	2.17	5.36	3.82	5.71	9.79
Assam	13.67	17.98	22.14	3.72	8.71	18.95	11.80	15.85	21.30
Bihar	12.30	11.46	14.14	1.10	1.52	4.00	8.77	9.12	11.61
Gujarat	10.73	10.67	22.95	3.18	4.47	10.05	7.59	8.23	17.74
Haryana	15.56	10.71	12.53	1.76	4.25	7.05	11.46	8.56	10.66
Himachal Pradesh	10.03	14.24	14.47	4.84	8.15	10.43	7.60	11.41	12.55
Jammu & Kashmir	11.77	19.21	21.60	2.61	7.99	14.00	8.88	14.68	19.24
Karnataka	10.35	12.51	18.26	3.17	5.53	10.95	7.54	9.66	15.20
Kerala	24.68	33.66	36.49	18.07	22.37	27.00	22.03	29.97	33.03
Madhya Pradesh	6.29	7.45	13.97	0.68	1.36	3.81	3.92	5.00	9.91
Maharashtra	12.30	19.62	24.71	3.02	8.01	16.37	8.11	14.36	21.02
Orissa	9.39	14.17	19.99	1.01	2.08	9.94	6.58	9.90	16.34
Punjab	9.61	11.83	13.06	4.02	6.54	9.82	7.79	10.44	11.94
Rajasthan	6.81	10.55	14.90	0.51	1.18	3.78	4.05	6.45	10.19
Tamil Nadu	12.02	14.26	18.06	2.75	5.78	9.81	8.06	10.57	14.48
Uttar Pradesh	10.49	14.60	18.91	1.27	1.95	5.94	7.73	11.18	14.85
West Bengal	10.34	14.67	15.15	2.54	5.13	7.18	8.38	12.39	13.32
Other NE	11.16	16.48	22.30	6.04	9.14	16.71	9.60	14.01	20.25
Other states	14.47	15.05	18.97	7.39	12.59	12.17	11.84	14.39	17.43
Total	10.64	13.61	17.99	2.55	4.39	8.85	7.66	10.34	14.70

Source: *ibid.*

Table 4.7.11 Percentage Distribution of Urban Labour Force with Middle Level of Education

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	16.49	14.33	16.01	4.48	4.50	7.17	13.49	11.76	13.60
Assam	24.83	24.52	22.73	11.86	15.54	11.75	23.36	23.09	21.09
Bihar	20.77	16.30	16.65	3.55	5.50	10.90	18.14	15.00	15.83
Gujarat	15.93	16.61	21.45	8.37	9.88	16.95	14.54	15.30	20.63
Haryana	15.20	18.80	13.53	5.75	6.48	7.82	13.78	16.31	12.49
Himachal Pradesh	15.71	10.79	7.88	6.14	1.18	5.31	13.78	8.42	7.25
Jammu & Kashmir	15.97	17.64	20.91	5.92	9.92	15.71	14.51	16.17	20.11
Karnataka	18.23	16.95	20.67	7.36	9.01	16.25	15.40	15.03	19.65
Kerala	28.08	32.26	33.13	22.73	23.19	20.74	26.34	29.51	28.84
Madhya Pradesh	15.38	11.60	13.45	4.68	4.01	9.36	13.14	10.00	12.60
Maharashtra	21.77	22.78	26.42	6.58	12.51	14.86	18.75	20.53	23.81
Orissa	20.99	20.19	19.52	2.30	4.08	10.89	17.96	16.88	17.42
Punjab	14.78	15.67	13.94	10.38	7.77	4.61	14.01	14.64	12.28
Rajasthan	14.65	17.60	17.56	1.78	3.86	8.81	11.33	14.51	15.49
Tamil Nadu	19.28	18.49	18.96	7.28	9.35	12.93	16.02	15.89	17.24
Uttar Pradesh	14.72	13.97	15.77	2.71	4.80	6.73	13.06	12.58	14.31
West Bengal	18.62	17.65	19.88	11.32	9.57	13.67	17.37	16.05	18.69
Other NE	25.97	24.96	23.41	13.51	19.11	18.81	22.89	23.42	21.97
Other states	15.98	11.45	16.77	5.99	4.18	5.55	14.46	10.33	15.25
Total	18.15	17.52	19.34	7.23	8.84	12.06	15.91	15.68	17.77

Source: *ibid.*

Table 4.7.12 Percentage Distribution of Total Labour Force with Middle Level of Education

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	8.28	9.97	13.96	1.38	2.46	5.63	5.53	6.90	10.61
Assam	14.95	18.80	22.22	4.26	9.27	18.41	13.02	16.69	21.27
Bihar	13.40	12.07	14.49	1.24	1.75	4.51	9.77	9.77	12.13
Gujarat	12.40	12.73	22.36	3.85	5.36	11.26	9.35	10.26	18.66
Haryana	15.47	13.02	12.84	2.26	4.62	7.17	11.97	10.50	11.14
Himachal Pradesh	10.55	13.95	13.65	4.88	7.92	10.18	7.99	11.23	12.07
Jammu & Kashmir	12.69	18.86	21.42	2.92	8.16	14.22	9.91	14.94	19.44
Karnataka	12.55	13.86	19.08	3.90	6.12	11.89	9.44	11.02	16.45
Kerala	25.41	33.28	35.63	18.83	22.58	25.49	22.87	29.85	31.98
Madhya Pradesh	8.05	8.35	13.84	1.00	1.62	4.48	5.29	5.86	10.47
Maharashtra	15.75	20.91	25.48	3.55	8.86	16.02	11.11	16.36	22.06
Orissa	10.76	15.00	19.92	1.08	2.22	10.03	7.67	10.71	16.48
Punjab	11.01	13.05	13.39	4.91	6.74	8.81	9.24	11.63	12.05
Rajasthan	8.38	12.09	15.54	0.64	1.44	4.38	5.21	7.81	11.22
Tamil Nadu	14.37	15.82	18.49	3.63	6.61	10.83	10.24	12.25	15.65
Uttar Pradesh	11.27	14.48	18.18	1.38	2.25	6.03	8.55	11.42	14.74
West Bengal	12.77	15.53	16.58	4.33	6.21	8.84	10.83	13.42	14.89
Other NE	14.27	18.14	22.52	7.28	10.60	17.05	12.22	15.70	20.57
Other states	15.69	12.10	17.07	6.60	6.76	7.03	13.83	11.15	15.57
Total	12.45	14.63	18.39	3.13	5.05	9.40	9.32	11.54	15.49

Source: *ibid.*

**Table 4.7.13 Percentage Distribution of Rural Labour Force with
Secondary & Higher Secondary Education**

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	4.45	7.78	12.84	0.36	1.10	4.35	2.69	4.81	9.12
Assam	7.12	11.11	13.06	3.27	6.59	8.52	6.39	10.07	11.86
Bihar	6.20	11.20	15.59	0.41	1.05	2.60	4.38	8.81	12.36
Gujarat	6.62	14.11	16.72	1.26	4.08	6.94	4.39	10.17	12.77
Haryana	10.42	20.19	25.64	0.64	4.73	10.43	7.51	15.03	20.45
Himachal Pradesh	12.03	19.04	28.72	3.68	7.92	19.48	8.12	13.88	24.33
Jammu & Kashmir	6.23	14.98	17.90	1.90	3.19	9.31	4.86	10.22	15.23
Karnataka	6.45	10.81	13.08	0.99	2.37	5.13	4.32	7.36	9.76
Kerala	10.20	17.89	24.70	9.24	18.55	28.34	9.82	18.10	26.03
Madhya Pradesh	3.35	8.02	10.10	0.20	0.63	1.67	2.02	5.05	6.73
Maharashtra	6.65	12.56	21.36	0.66	2.62	7.73	3.94	8.05	15.34
Orissa	3.53	5.21	9.63	0.47	0.89	3.57	2.50	3.69	7.43
Punjab	9.95	19.07	26.03	3.85	9.49	18.84	7.96	16.55	23.53
Rajasthan	3.55	6.81	11.21	0.11	0.40	1.82	2.04	4.01	7.23
Tamil Nadu	5.99	11.94	14.45	1.73	4.35	7.58	4.17	8.64	11.47
Uttar Pradesh	6.29	12.18	15.53	0.66	1.34	3.85	4.60	9.25	11.88
West Bengal	7.85	8.00	10.12	1.37	2.76	4.76	6.22	6.75	8.89
Other NE	6.83	11.41	14.40	3.04	5.45	9.80	5.67	9.41	12.71
Other states	12.68	29.55	35.96	4.20	12.23	20.11	9.54	24.91	32.37
Total	6.16	11.03	15.07	1.20	2.72	6.05	4.34	8.08	11.82

Source: *ibid.*

**Table 4.7.14 Percentage Distribution of Urban Labour Force with
Secondary & Higher Secondary Education**

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	17.94	22.48	25.61	6.47	6.63	11.04	15.08	18.33	21.63
Assam	27.93	27.56	28.88	22.38	30.82	25.10	27.30	28.08	28.32
Bihar	15.89	22.26	28.05	2.99	10.16	11.42	13.92	20.80	25.69
Gujarat	20.24	23.92	34.29	8.55	13.93	21.10	18.08	21.98	31.89
Haryana	20.74	27.71	37.01	23.51	16.01	24.27	21.16	25.34	34.70
Himachal Pradesh	35.59	37.22	39.95	39.20	22.13	25.06	36.32	33.50	36.31
Jammu & Kashmir	18.44	36.31	28.47	12.32	15.08	16.32	17.55	32.26	26.60
Karnataka	22.83	28.52	32.40	11.83	16.61	19.94	19.96	25.63	29.52
Kerala	15.05	22.89	29.03	17.83	25.62	31.58	15.95	23.72	29.91
Madhya Pradesh	18.33	26.26	26.58	4.63	9.71	11.18	15.46	22.78	23.37
Maharashtra	24.20	28.24	30.89	12.57	15.81	19.54	21.89	25.51	28.33
Orissa	16.50	21.44	25.58	5.63	11.69	15.07	14.73	19.44	23.03
Punjab	22.35	30.30	34.35	15.47	26.73	28.58	21.15	29.83	33.33
Rajasthan	14.60	21.12	21.50	1.90	7.19	7.15	11.32	17.99	18.11
Tamil Nadu	19.45	23.81	28.86	11.32	13.57	16.92	17.25	20.90	25.47
Uttar Pradesh	16.40	20.54	21.76	6.24	8.14	9.31	14.99	18.65	19.75
West Bengal	18.12	21.23	23.62	10.54	12.96	15.89	16.82	19.59	22.14
Other NE	18.89	27.11	30.70	14.34	22.31	29.58	17.76	25.84	30.35
Other states	24.26	24.83	28.72	19.25	20.29	19.81	23.50	24.12	27.51
Total	19.60	24.42	28.03	10.17	13.73	16.95	17.67	22.15	25.64

Source: *ibid.*

**Table 4.7.15 Percentage Distribution of Total Labour Force with
Secondary & Higher Secondary Education**

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	7.42	11.41	16.21	1.03	1.80	5.33	4.88	7.48	11.83
Assam	9.50	13.16	15.32	4.54	8.59	9.77	8.61	12.15	13.94
Bihar	7.45	12.58	17.31	0.56	1.59	3.25	5.39	10.13	13.99
Gujarat	10.99	17.52	23.61	2.22	5.71	9.41	7.86	13.55	18.88
Haryana	13.05	22.33	29.14	3.50	6.63	12.64	10.52	17.61	24.21
Himachal Pradesh	14.18	20.57	30.12	4.68	8.40	19.75	9.89	15.08	25.41
Jammu & Kashmir	8.91	19.69	20.70	2.88	4.26	10.20	7.19	14.04	17.81
Karnataka	11.02	16.19	19.67	2.89	4.77	7.77	8.10	12.01	15.33
Kerala	11.24	19.25	25.81	10.65	20.32	29.12	11.01	19.59	27.00
Madhya Pradesh	6.26	11.95	14.34	0.56	1.52	2.82	4.03	8.10	10.19
Maharashtra	13.04	18.93	25.67	2.41	5.10	10.48	9.00	13.71	20.18
Orissa	5.05	7.46	12.03	0.72	1.66	4.61	3.67	5.51	9.45
Punjab	13.31	22.65	29.13	5.47	12.30	20.74	11.03	20.32	26.68
Rajasthan	5.77	9.93	13.71	0.29	1.04	2.46	3.53	6.36	9.35
Tamil Nadu	10.36	16.32	21.40	3.59	6.49	10.62	7.76	12.51	17.41
Uttar Pradesh	8.15	13.81	16.98	1.10	2.05	4.47	6.21	10.87	13.44
West Bengal	10.86	11.84	14.21	3.24	5.24	7.60	9.11	10.34	12.77
Other NE	9.35	14.47	17.65	4.91	7.93	13.06	8.05	12.36	16.01
Other states	22.05	25.68	29.68	12.68	17.82	19.88	20.13	24.28	28.22
Total	9.40	14.53	18.92	2.30	4.35	7.91	7.02	11.25	15.36

Source: *ibid.*

Table 4.7.16 Percentage Distribution of Rural Labour Force with Graduate & above Education

State	Rural Males			Rural Females			Rural Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	0.98	1.79	3.15	0.07	0.16	0.55	0.59	1.06	2.01
Assam	1.62	2.51	2.59	0.48	1.32	1.22	1.40	2.23	2.23
Bihar	1.29	3.24	3.78	0.05	0.33	0.36	0.90	2.55	2.93
Gujarat	1.52	3.15	3.37	0.20	0.19	0.88	0.97	1.99	2.36
Haryana	1.46	2.68	6.07	0.26	0.19	1.54	1.10	1.85	4.52
Himachal Pradesh	2.06	2.97	6.16	0.40	0.85	3.97	1.28	1.98	5.12
Jammu & Kashmir	1.24	1.79	3.83	0.26	0.52	1.32	0.93	1.27	3.05
Karnataka	1.26	2.33	2.86	0.10	0.61	0.99	0.81	1.62	2.08
Kerala	1.92	4.11	4.61	1.94	3.95	7.88	1.93	4.06	5.80
Madhya Pradesh	0.85	1.39	3.23	0.04	0.07	0.49	0.50	0.86	2.13
Maharashtra	0.96	2.70	4.81	0.08	0.35	1.05	0.56	1.63	3.15
Orissa	1.05	1.55	4.37	0.14	0.40	1.54	0.75	1.15	3.34
Punjab	1.46	2.36	2.99	0.74	1.42	1.92	1.23	2.11	2.62
Rajasthan	1.09	2.00	3.58	0.07	0.29	0.32	0.64	1.25	2.20
Tamil Nadu	1.03	3.34	3.79	0.20	0.84	1.57	0.67	2.25	2.83
Uttar Pradesh	1.69	3.23	4.79	0.05	0.37	0.81	1.20	2.45	3.54
West Bengal	2.11	3.28	3.79	0.70	0.79	1.26	1.76	2.69	3.21
Other NE	2.60	3.66	4.95	0.62	1.96	2.61	2.00	3.09	4.09
Other states	3.04	5.25	6.94	0.09	3.76	7.42	1.95	4.85	7.05
Total	1.37	2.71	3.95	0.22	0.53	1.18	0.94	1.94	2.95

Source: *ibid.*

Table 4.7.17 Percentage Distribution of Urban Labour Force with Graduate & above Education

State	Urban Males			Urban Females			Urban Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	8.24	12.17	16.07	3.37	7.71	10.46	7.02	11.00	14.53
Assam	7.29	16.07	21.44	9.57	15.81	22.30	7.55	16.02	21.56
Bihar	8.48	16.71	23.83	2.99	13.60	11.42	7.65	16.33	22.06
Gujarat	9.57	13.70	15.09	6.45	7.46	10.96	8.99	12.49	14.34
Haryana	10.75	13.62	15.82	4.86	11.67	21.25	9.87	13.23	16.81
Himachal Pradesh	18.32	22.17	15.03	14.21	14.89	21.76	17.49	20.38	16.68
Jammu & Kashmir	10.81	18.36	10.42	20.05	27.11	20.04	12.15	20.03	11.90
Karnataka	8.56	13.96	16.15	4.32	9.02	13.24	7.45	12.76	15.48
Kerala	6.43	9.47	12.00	7.42	11.70	21.37	6.75	10.14	15.24
Madhya Pradesh	10.04	14.45	20.61	4.73	13.30	14.50	8.93	14.20	19.33
Maharashtra	11.06	14.35	15.95	8.10	15.13	19.31	10.47	14.52	16.71
Orissa	8.14	15.14	18.01	5.74	14.11	16.78	7.75	14.93	17.72
Punjab	8.14	12.41	14.20	13.47	19.62	33.17	9.07	13.35	17.57
Rajasthan	7.49	14.85	14.49	2.01	8.36	10.23	6.07	13.39	13.48
Tamil Nadu	6.24	9.38	16.41	2.63	6.88	12.32	5.26	8.67	15.25
Uttar Pradesh	10.46	15.71	16.44	7.61	10.41	13.90	10.07	14.91	16.03
West Bengal	12.14	17.03	18.03	12.29	16.38	18.93	12.17	16.90	18.20
Other NE	11.36	17.02	19.67	9.44	13.29	20.81	10.88	16.03	20.03
Other states	18.06	21.99	25.12	21.12	34.93	34.69	18.53	23.99	26.42
Total	9.81	14.43	17.24	6.54	12.07	16.08	9.14	13.93	16.99

Source: *ibid.*

Table 4.7.18 Percentage Distribution of Total Labour Force with Graduate & above Education

State	Total Males			Total Females			Total Persons		
	1983	1993-94	2004-05	1983	1993-94	2004-05	1983	1993-94	2004-05
Andhra Pradesh	2.58	4.35	6.55	0.44	1.12	2.01	1.72	3.03	4.73
Assam	2.27	4.20	5.28	1.09	2.52	2.81	2.05	3.83	4.66
Bihar	2.22	4.91	6.54	0.21	1.12	1.18	1.62	4.07	5.28
Gujarat	4.11	6.81	7.97	1.02	1.39	2.65	3.00	4.99	6.20
Haryana	3.83	5.80	9.08	0.84	2.13	4.69	3.04	4.69	7.77
Himachal Pradesh	3.54	4.59	7.27	0.79	1.32	4.84	2.30	3.11	6.16
Jammu & Kashmir	3.34	5.45	5.58	2.11	2.91	3.70	2.99	4.52	5.06
Karnataka	3.30	5.86	7.40	0.84	2.02	3.17	2.41	4.45	5.86
Kerala	2.89	5.57	6.50	2.84	5.90	11.13	2.87	5.67	8.17
Madhya Pradesh	2.63	4.20	7.71	0.41	1.37	2.18	1.76	3.15	5.72
Maharashtra	4.64	7.43	9.84	1.26	3.13	5.30	3.35	5.81	8.20
Orissa	1.89	3.44	6.43	0.41	1.37	2.92	1.42	2.74	5.21
Punjab	3.27	5.56	7.17	2.52	4.39	8.01	3.05	5.30	7.42
Rajasthan	2.38	4.80	6.23	0.26	1.05	1.50	1.51	3.29	4.40
Tamil Nadu	2.72	5.57	9.88	0.67	2.24	5.08	1.93	4.28	8.10
Uttar Pradesh	3.30	5.66	7.50	0.64	1.42	2.29	2.57	4.60	6.03
West Bengal	5.05	7.27	8.10	3.06	4.59	5.78	4.59	6.66	7.59
Other NE	4.44	6.27	7.89	2.08	3.63	5.61	3.75	5.42	7.08
Other states	15.19	18.96	22.70	11.94	25.38	28.62	14.53	20.10	23.58
Total	3.40	5.78	7.90	0.99	2.24	3.72	2.59	4.64	6.55

Source: *ibid.*

5

Demographic Dividend or Demographic Burden? National and State Level Projections of Labour Force

Demographic Dividend

5.1 Any informed discussion on an employment strategy will have to be based on likely scenarios of the number and characteristics of the people who will be seeking employment. The people seeking work constitute the labour force. They fall largely in the age group of 15-59 years. The size of the working population is determined by the pace of the population growth. The process, known as demographic transition, determines the relative share of the working age group and consequently the labour force.

5.2 In the sixties and seventies, the developing countries fell prey to the neo-Malthusians who emphasized the detrimental impact of rapid population growth that had resulted from the reduction of mortality achieved earlier by the newly independent but poor countries. However, with the emergence of the group of the East and South-East Asian countries registering rapid economic growth, the emphasis quickly shifted to the concept of 'demographic dividend' that showed the importance of demographic attributes in enhancing economic growth (see for example, Bloom and Williamson (1998)).

5.3 The concept of demographic dividend basically connotes the gains in economic growth as a result of the increase in the share of the working age population relative to their non-working age counterparts, viz. children and the aged. Such a situation emerges when a country experiencing the demographic transition reaches its second stage of a fast reduction in fertility leading to a decline in the child population. In India the process of demographic transition is now in the early part of the second stage when fertility decline is picking up. However, this national average conceals a great deal of the regional variations. As per the latest National Family Health Survey (IIPS and Macro International 2007), 11 states have already achieved or are very close to achieving the replacement level fertility rate of 2.1 children per couple in the fertility age group. When such a rate is reached, the population will stabilize within a period of one generation i.e. around 25 years. However, population will continue to grow during this intervening period. For the remaining states achieving replacement level of fertility is farther away.

5.4 This underlines the need to understand the state-wise population growth over time in order to get an idea of the growth rate in the labour force along with its regional variations. Of course, labour force participation rate (i.e. percentage of working age population who are available for work) could be higher or lower depending on a number of factors such as erosion of feudal aversion and brahminical caste taboos to manual work and social restrictions on the freedom of women to participate in the labour market. In India, this rate is crucially dependent on the participation of women, as we shall see later.

Earlier Population Projections

5.5 The Eleventh Plan used a set of projections prepared by its Working Group on Labour Force and Employment Projections. These projections were based on two different concepts, the Usual Principal and Subsidiary Status (UPSS) and the Current Daily Status (CDS). The UPSS labour force is projected to increase from 492.7 million in 2006-07 to 541.8 million in 2011-12 and the CDS labour force from 438.9 to 483.7 million, translating into annual growth rates of 1.9 percent and 2.0 percent respectively over the Plan period. The increase in the labour force during the Plan comes to 49.2 million (UPSS) and 44.7 million (CDS) (Planning Commission 2008).

5.6 The NCEUS has attempted the projections based on UPSS and Modified Current Weekly Status (MCWS), a variant of CWS. The decision to carry out an independent exercise was prompted by two main reasons. First, the Planning Commission's projections were only for the country as a whole and not for the individual states. NCEUS recognizes the significant regional variations in the process of demographic transition in India and its consequent impact on the future growth of the labour force. Therefore we decided to project the labour force for the individual states first and then aggregate them for the country as a whole. Second, as noted earlier in this report (see Chapter 3), the CDS measure does not relate to persons although it has the ability to capture the situation during a short reference period. So we have adopted a modified version of the Current Weekly Status (MCWS), to provide us

projections along with that of the UPSS, which we call a broad measure of employment and unemployment.

5.7 Since population projections constitute the basis for projecting the labour force, we highlight here certain important features of the future scenario and the sharp regional variations across the states in India, which have important implications for population policy and its implementation. The three time points for which projections have been made are 2007 that marks the beginning of the 11th Plan, 2012 the end of the 11th Plan and the beginning of the 12th Plan and 2017 when the 12th Plan ends. Thus, a ten year perspective is taken for the labour force projections here.

Methodology

5.8 The methodology consists of projecting state-wise populations, and then applying age-specific LFPR projections by using the observed LFPRs during the years 1983, 1993-94 and 2004-05 as available from 38th, 50th and 61st Rounds Employment-Unemployment Surveys of National Sample Survey Organisation (NSSO).

5.9 The projection of population by age and sex for the period 2001-2026 has been worked out by an Expert Committee constituted by the National Population Commission. The Committee has also made projections of the rural urban totals. However, in order to make state-wise labour force projections by applying projected labour force participation rates, respective projected population for urban and rural areas by age and sex are required. These population projections were carried out by the International Institute for Population Studies (IIPS), Mumbai at the instance of the NCEUS. As many as 20 states and two groups of states were taken up. The latter consists of (i) North East States other than Assam and (ii) other states that include Delhi, Pondicherry, Goa and other union territories.

5.10 The detailed exercise involved arriving at the state-wise projections of population in the urban areas by sex and age, allowing for rural-urban migration and obtaining projections for rural areas by subtracting age-sex projections for urban population from the total population projections made by the Expert Committee. The age-sex projections of population for urban areas

were made by using 'Cohort Component Method (CCM)' for major states and 'Ratio Method' for smaller states and union territories. The details of this methodology are given in Appendix 5.1 at the end of this Chapter.

5.11 To project the labour force participation rates (LFPRs), an internal exercise was carried out for computing them by age and sex separately for rural and urban areas in the selected states based on the unit level data from the 38th, 50th and 61st Rounds of the NSSO's Employment and Unemployment Survey mentioned above. The rates were computed by applying both the UPSS and MCWS concepts. These rates were examined for identifying trends in specific age groups or geographic areas. The ratio method was used for projecting the LFPRs wherever decreasing or increasing trends were noted. In other cases, smoothed averages were used for projecting the LFPRs for 2007, 2012 and 2017. The methodology followed is contained in the Appendix 5.1 to this Chapter.

Projected Population

5.12 The projected population as per the above methodology was 1129.97 million in 2007 which would increase to 1210.32 million by 2012 and further to 1284.89 million by 2017. These projections by sex and the growth rates are given in Table 5.1. The aggregate population growth rate between 2002 and 2007 is projected to be 1.54 percent. This is expected to decline to 1.38 percent during 2007-12 and further to 1.20 percent during 2012-17. However, the benefits of this decreasing population growth in terms of working age population will be felt only after 15 years from the initial period.

5.13 In the year 2002, the younger age groups had a large percentage share in the male and female populations except that the percentage share of the lowest age group 0-4 was marginally lower than that of the age group 5-9. There will be progressive reduction in the share of this age group in the total population as we can see from the 'population pyramids' shown for 2007, 2012 and 2017 (Fig. 5.1- 5.3.). Thus, the age composition of the population will change. While in 2007, the highest population share was in the age group 10-14, it is projected to go to the age group 15-19 by 2012 and then to the age group 20-24 by 2017. In other words, the share of population in the working age group is likely to increase with time.

Table 5.1: Projected Population & Growth Rates in Different Years by Sex

Year	Projected Population (million)		
	Males	Females	Total
2002	541.68	505.30	1046.98
2007	584.78 (1.54)	545.19 (1.53)	1129.97 (1.54)
2012	626.63 (1.39)	583.70 (1.37)	1210.32 (1.38)
2017	665.48 (1.21)	619.41 (1.19)	1284.89 (1.20)

Note: Figures in brackets are annual growth rates

Source : Computed and Projected by NCEUS.

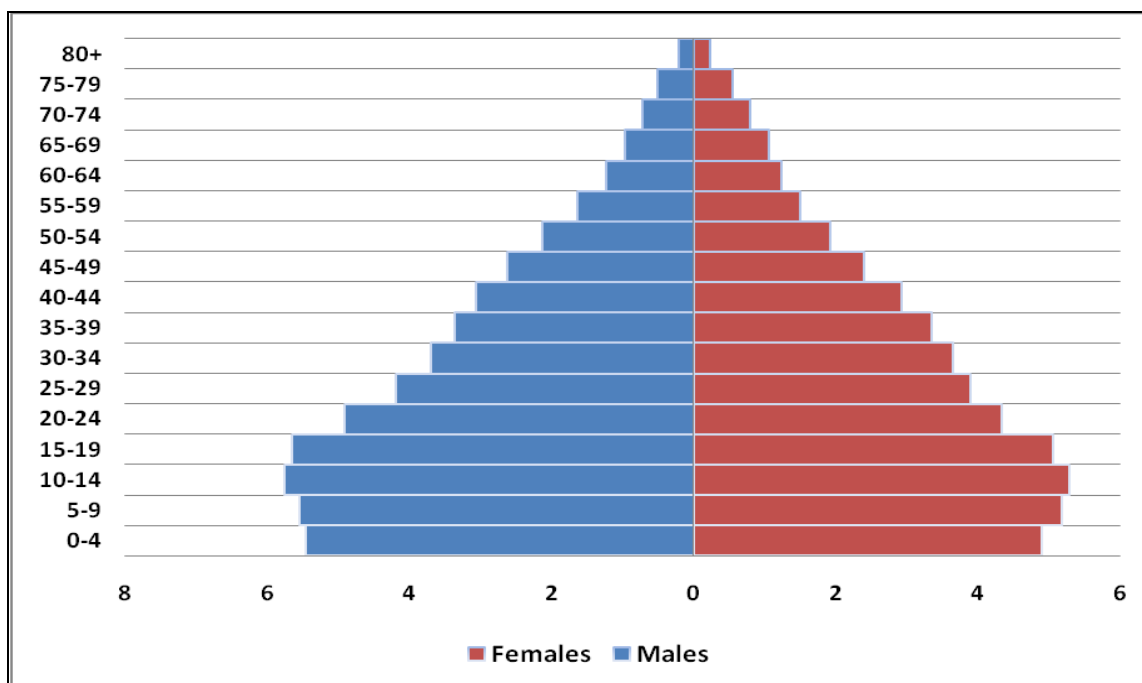
5.14 As already noted, the national picture conceals the regional variations across the states in India. First, the population growth rates show wide variations across the states as a result of the differential pace of the phenomenon of demographic transition (Table 5.2). This suggests that the growth rates in working age population will continue to vary significantly across the states for the next three decades or so. It will also be manifest in differential growth rates of the labour force.

Table 5.2 Projected Population Growth Rates in India by State (Percent/Annum)

State	2002-07	2007-12	2012-17
Tamil Nadu	0.82	0.67	0.54
Kerala	0.86	0.74	0.61
Andhra Pradesh	1.11	0.94	0.81
Himachal Pradesh	1.40	0.96	0.81
Orissa	1.06	0.91	0.81
West Bengal	1.16	0.95	0.87
Karnataka	1.22	1.07	0.94
Punjab	1.33	1.17	0.97
Other NE	1.26	1.18	1.11
J&K	1.50	1.34	1.12
Assam	1.42	1.27	1.18
Bihar	1.73	1.43	1.19
Gujarat	1.59	1.39	1.22
Maharashtra	1.56	1.42	1.25
Chhattisgarh	1.58	1.40	1.27
Uttarakhand	1.64	1.49	1.30
Jharkhand	1.62	1.41	1.32
Rajasthan	1.91	1.67	1.42
Madhya Pradesh	1.87	1.65	1.48
Haryana	1.93	1.71	1.51
Uttar Pradesh	1.95	1.80	1.63
Other states	3.08	3.88	2.3
All India	1.54	1.38	1.20

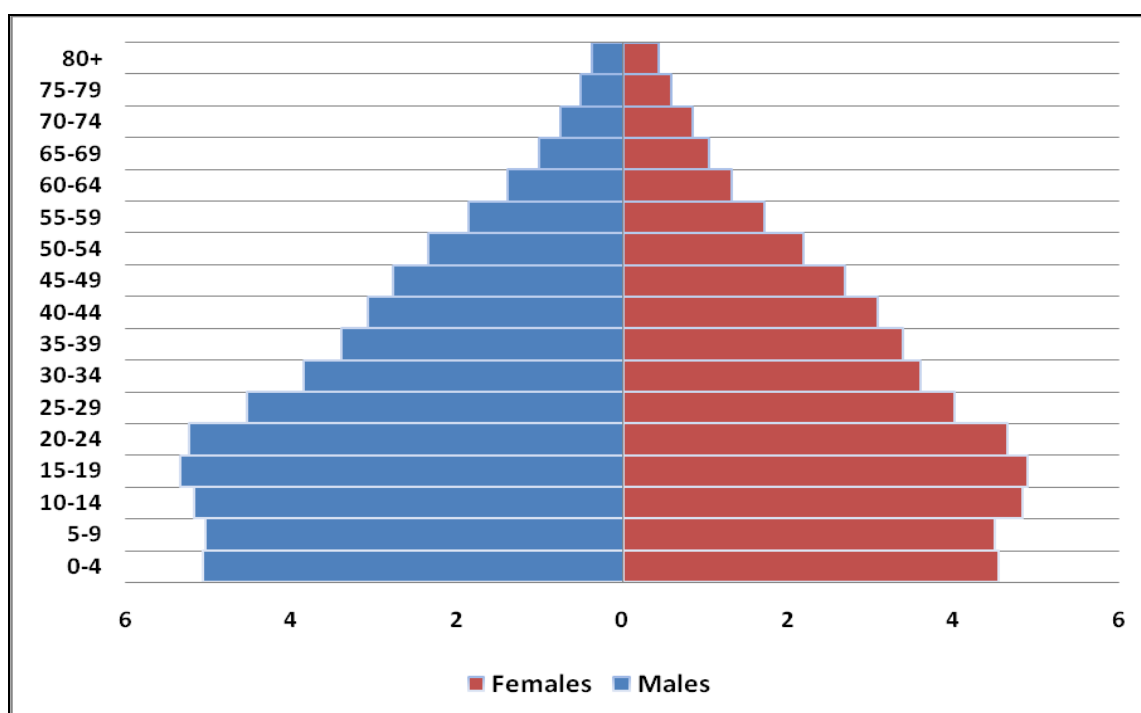
Source : ibid

Fig. 5.1: Population Pyramid of India for 2007



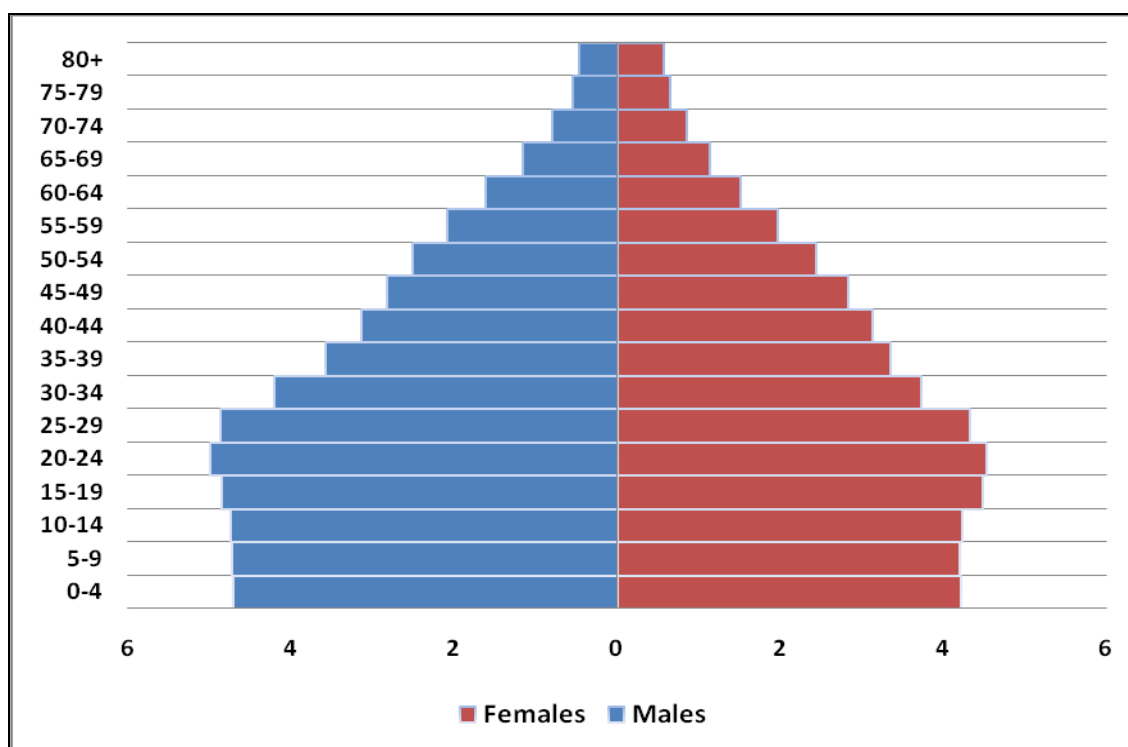
Source : ibid

Fig. 5.2: Population Pyramid of India for 2012



Source : ibid

Fig. 5.3: Population pyramid of India for 2017



Source : ibid

5.15 By segregating the population into three broad groups i.e., 0-14, 15-59 and 60+ years, we find that 15 states out of the 22 have shares of working age population higher than the national average. Tamil Nadu (65.5 percent) and Kerala (64.7 percent) are at the top and Bihar (55.3 percent) and Uttar Pradesh (55.5 percent) are at the bottom in 2007. By 2017, all the states will increase their shares of working age population and the national average will increase to 63.9 percent compared to 60.3 percent in 2007. The top states in 2017 will be those in the North East (other than Assam) with 68.3 percent of population in the working age group followed by West Bengal (67.6 percent) and Andhra Pradesh (66.5 percent). At the bottom will be Uttar Pradesh (59.2 percent) followed by Madhya Pradesh (61.8 percent). The details of the state-wise figures are given in Tables 5.3 - 5.5. We shall later examine whether this demographic advantage will be translated into higher share of labour force or not.

5.16 The differential results in terms of working age population is the outcome of the past population growth rates. In terms of demographic transition, Kerala has

already reached the third stage with low birth and death rates and stands at the top end of the Indian demographic spectrum. At the other end is Uttar Pradesh with the highest share of population in the age group 0-14 in 2017. The projected population structure in Kerala and Uttar Pradesh provide the two ends of the demographic spectrum. The population pyramids of these two states during the years 2007 and 2017 are given in Fig. 5.4- 5.7.

5.17 These two extremes in the Indian spectrum of demographic transition show the uneven regional process contributing to an all India demographic transition. The Kerala population pyramid for 2007 is even more advanced than the all India projected population pyramid for 2017. This entails a regionally differentiated and nuanced population policy that may accelerate the demographic transition in the lagging states enabling them to catch up earlier than projected here. This will of course have an impact on working age population and labour force growth in the future hopefully not too far in terms of a long term developmental perspective.

Table 5.3: Projected Population by State & Age Group in 2007

State	Age Group (million)				Percentage Distribution			
	0-14	15-59	60+	Total	0-14	15-59	60+	Total
Andhra Pradesh	23.1	52.0	6.6	81.6	28.3	63.7	8.0	100.0
Assam	9.8	17.6	1.7	29.1	33.7	60.6	5.8	100.0
Bihar	35.5	51.0	5.8	92.3	38.4	55.3	6.3	100.0
Gujarat	16.7	35.1	4.2	55.9	29.8	62.8	7.4	100.0
Haryana	7.6	14.5	1.7	23.8	31.8	60.9	7.2	100.0
Himachal Pradesh	1.8	4.2	0.6	6.6	27.5	63.1	9.4	100.0
Jammu & Kashmir	3.5	6.9	0.8	11.1	31.4	61.7	6.9	100.0
Karnataka	16.1	36.3	4.6	57.0	28.2	63.7	8.1	100.0
Kerala	8.1	21.7	3.8	33.6	24.1	64.7	11.2	100.0
Madhya Pradesh	24.2	39.0	4.5	67.7	35.7	57.6	6.7	100.0
Maharashtra	30.8	66.6	9.1	106.5	29.0	62.5	8.6	100.0
Orissa	11.7	24.3	3.3	39.3	29.8	61.9	8.3	100.0
Punjab	7.3	16.7	2.4	26.4	27.6	63.3	9.1	100.0
Rajasthan	23.2	36.1	4.2	63.5	36.5	56.9	6.7	100.0
Tamil Nadu	16.1	43.0	6.5	65.7	24.5	65.5	10.0	100.0
Uttar Pradesh	70.9	103.8	12.4	187.0	37.9	55.5	6.6	100.0
West Bengal	25.1	54.7	6.4	86.2	29.1	63.4	7.5	100.0
Jharkhand	10.6	17.4	1.8	29.8	35.6	58.4	6.0	100.0
Chhattisgarh	7.8	13.5	1.6	23.0	34.1	58.7	7.2	100.0
Uttarakhand	3.1	5.6	0.7	9.4	32.9	59.3	7.9	100.0
Other NE States	4.0	8.3	0.8	13.2	30.6	63.2	6.2	100.0
Other states	6.4	13.7	1.3	21.4	29.8	64.2	6.0	100.0
Total	363.2	681.9	84.9	1130.0	32.1	60.3	7.5	100.0

Source : ibid

Table 5.4: Projected Population by State & Age Group in 2012

State	Age Group (million)				Percentage Distribution			
	0-14	15-59	60+	Total	0-14	15-59	60+	Total
Andhra Pradesh	21.4	56.4	7.8	85.6	25.0	65.9	9.1	100.0
Assam	9.3	19.7	2.0	31.0	30.0	63.5	6.5	100.0
Bihar	33.7	58.4	7.1	99.1	34.0	58.9	7.2	100.0
Gujarat	16.2	38.6	5.0	59.9	27.0	64.5	8.4	100.0
Haryana	7.4	16.5	2.0	25.9	28.5	63.9	7.6	100.0
Himachal Pradesh	1.7	4.5	0.7	6.9	24.8	64.9	10.3	100.0
Jammu & Kashmir	3.4	7.6	0.9	11.9	28.3	64.0	7.7	100.0
Karnataka	15.2	39.3	5.5	60.1	25.4	65.4	9.2	100.0
Kerala	7.9	22.6	4.3	34.8	22.7	65.0	12.3	100.0
Madhya Pradesh	24.1	44.2	5.2	73.4	32.8	60.1	7.1	100.0
Maharashtra	30.4	73.6	10.3	114.3	26.6	64.4	9.0	100.0
Orissa	10.9	26.5	3.7	41.1	26.5	64.5	9.0	100.0
Punjab	7.0	18.3	2.7	28.0	25.0	65.3	9.7	100.0
Rajasthan	22.6	41.4	5.0	69.0	32.7	60.0	7.3	100.0
Tamil Nadu	15.3	44.9	7.6	67.9	22.6	66.2	11.2	100.0
Uttar Pradesh	71.6	118.4	14.5	204.5	35.0	57.9	7.1	100.0
West Bengal	22.8	59.9	7.7	90.4	25.3	66.2	8.5	100.0
Jharkhand	10.0	19.7	2.3	31.9	31.2	61.8	7.1	100.0
Chhattisgarh	7.7	15.0	1.9	24.6	31.3	60.8	7.9	100.0
Uttarakhand	3.1	6.2	0.9	10.1	30.3	61.2	8.5	100.0
Other NE States	3.6	9.3	1.0	14.0	26.1	66.6	7.3	100.0
Other states	7.4	16.9	1.6	25.9	28.6	65.1	6.3	100.0
Total	352.7	757.8	99.8	1210.3	29.1	62.6	8.2	100.0

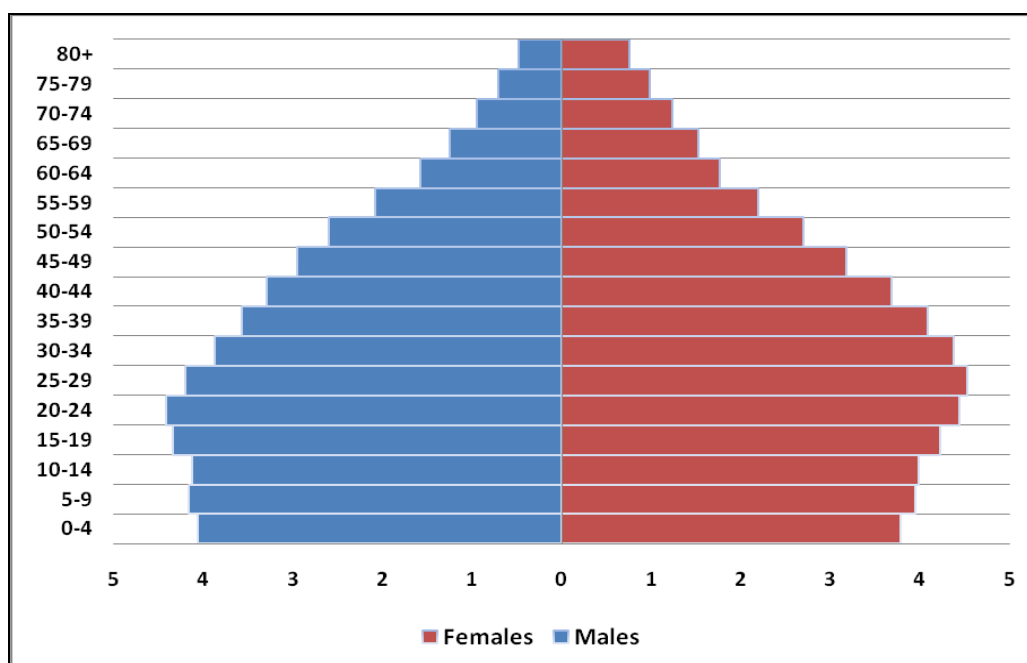
Source : ibid

Table 5.5: Projected Population by State & Age Group in 2017

State	Age Group (million)				Percentage Distribution			
	0-14	15-59	60+	Total	0-14	15-59	60+	Total
Andhra Pradesh	20.5	59.3	9.3	89.1	23.0	66.5	10.5	100.0
Assam	9.0	21.4	2.5	32.8	27.4	65.1	7.6	100.0
Bihar	31.3	65.2	8.6	105.2	29.8	62.0	8.2	100.0
Gujarat	15.8	41.6	6.2	63.6	24.8	65.4	9.8	100.0
Haryana	7.2	18.3	2.3	27.9	25.9	65.6	8.4	100.0
Himachal Pradesh	1.6	4.7	0.8	7.2	22.8	65.8	11.5	100.0
Jammu & Kashmir	3.3	8.1	1.1	12.6	26.6	64.5	8.9	100.0
Karnataka	14.7	41.5	6.7	63.0	23.4	65.9	10.7	100.0
Kerala	7.6	23.2	5.0	35.9	21.3	64.7	14.0	100.0
Madhya Pradesh	24.0	48.9	6.1	79.1	30.4	61.8	7.8	100.0
Maharashtra	29.9	79.7	12.0	121.6	24.6	65.5	9.9	100.0
Orissa	10.3	28.2	4.3	42.8	24.1	65.8	10.1	100.0
Punjab	6.8	19.4	3.2	29.4	23.2	65.9	10.9	100.0
Rajasthan	21.7	46.2	6.1	74.0	29.4	62.4	8.2	100.0
Tamil Nadu	14.9	45.9	9.0	69.8	21.3	65.8	12.9	100.0
Uttar Pradesh	73.3	131.2	17.2	221.8	33.1	59.2	7.8	100.0
West Bengal	21.2	63.8	9.4	94.4	22.5	67.6	10.0	100.0
Jharkhand	9.5	21.8	2.8	34.1	27.8	63.9	8.3	100.0
Chhattisgarh	7.6	16.3	2.3	26.2	28.9	62.4	8.8	100.0
Uttarakhand	3.1	6.7	1.0	10.8	28.6	62.1	9.3	100.0
Other NE States	3.4	10.1	1.3	14.8	23.0	68.3	8.7	100.0
Other states	7.9	19.1	1.9	29.0	27.4	65.9	6.7	100.0
Total	344.9	820.6	119.4	1284.9	26.8	63.9	9.3	100.0

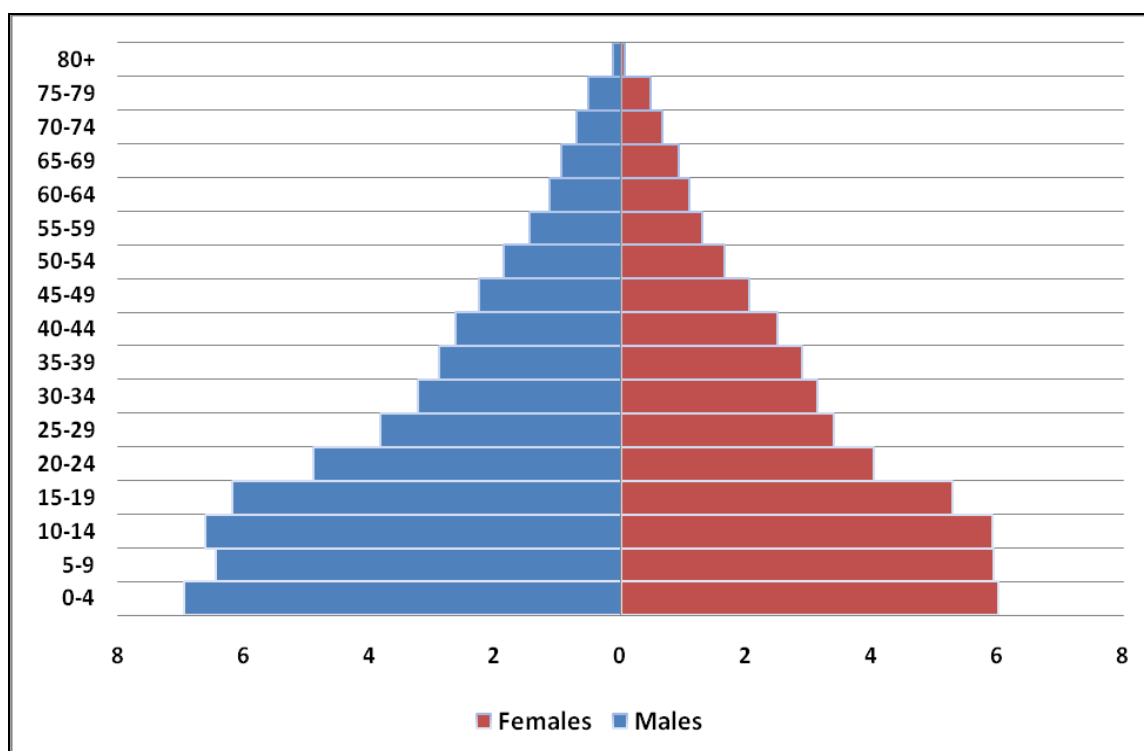
Source : ibid

Fig. 5.4: Population Pyramid of Kerala for 2007



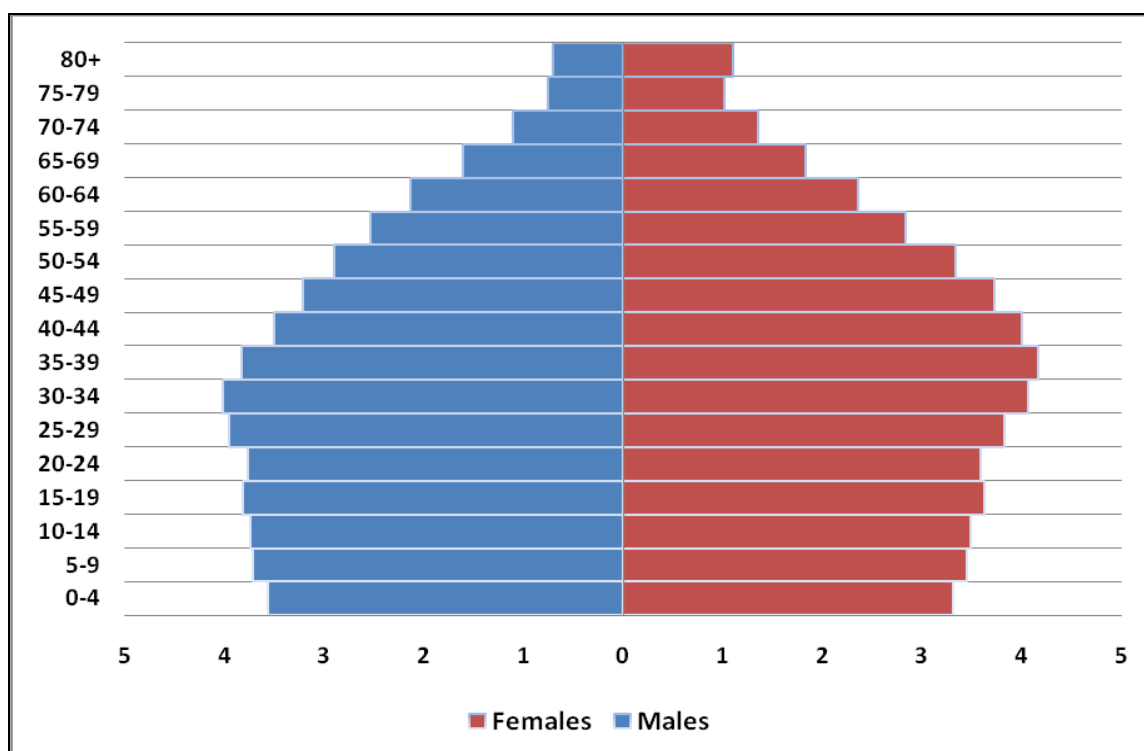
Source : ibid

Fig. 5.5: Population Pyramids of Uttar Pradesh for 2007



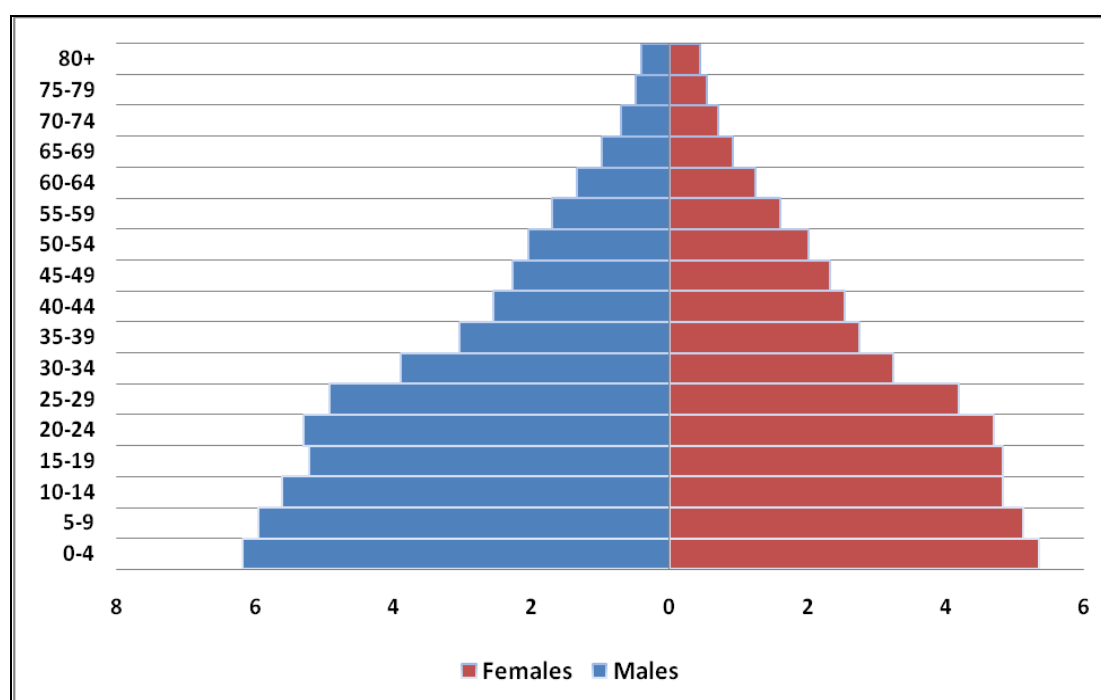
Source : ibid

Fig. 5.6: Population Pyramid of Kerala for 2017



Source : ibid

Figure 5.7: Population Pyramid of Uttar Pradesh for 2017



Source : ibid

Projected Labour Force

5.18 We now come to the findings on our projections of the labour force. The projected labour force in each of the years 2007, 2012 and 2017 has been decomposed into different educational levels by using the ratio method. The percentage shares of labour force in different age groups by educational levels in 1993-94 and 2004-05 have been used to estimate the average annual changes and the shares for each of the above years were projected by applying the same technique. The shares thus arrived at were applied to arrive at the projected labour force for all the age groups in each segment of every state.

5.19 The projected UPSS total labour force as on 1st April 2007 as per the NCEUS exercise is 489.1 million as against the Planning Commission's projection of 492.6 million. The difference is primarily because of (i) a reduction of about 1.2 million on account of declining labour force participation of children below the age of 14 years (ii) population adjustments carried out at the state level instead of the national level and (iii) use of labour force participation rates of each segment of the population for each state.

5.20 The projections of total labour force for 2012 and 2017 were 537.6 million and 583.4 million respectively as compared to the corresponding Planning Commission's projections of 541.9 million and 586.5 million. Our lower projections derive mainly from the difference of 3.5 million children in 2012 and 4.0 million children in 2017 when compared to Planning Commission's projections.

5.21 The projections of UPSS labour force by sector and sex as on 1st April of 2007, 2012 and 2017 are given in Table 5.6.

Table 5.6: UPSS Labour Force Projections by Sector & Sex (million)

Sector	Sex	2007	2012	2017
Rural	Males	230.8	252.0	272.7
	Females	128.4	138.0	147.7
	Persons	359.3	390.0	420.4
Urban	Males	102.3	116.1	128.4
	Females	27.6	31.5	34.6
	Persons	129.9	147.6	163
Total	Males	333.1	368.0	401.1
	Females	156.0	169.5	182.3
	Persons	489.1	537.6	583.4

Source : ibid

Comparison of Growth Rates

5.22 The average annual rates of growth of projected population and UPSS labour force projections of the Planning Commission and the NCEUS are given in Table 5.7.

5.23 In the aggregate, the projected population growth rate between 2007 and 2012 is 1.38 percent per annum. However, the growth rates of the projected labour force are 1.92 percent as per Planning Commission's projection and 1.91 percent as per NCEUS' projection. A significant difference between the two sets of projections is that the NCEUS' figures for the growth rate of female labour force between 2012 and 2017 is marginally higher than that given by Planning Commission while just the reverse holds good for their projection of the male labour force. For the same period NCEUS projection for the aggregate labour force growth rate was slightly higher than that of Planning Commission. The growth rates of population and labour force projections during the period 2012 and 2017 are given in Table 5.8.

5.24 The projected UPSS labour force by sex in 2007, 2012 and 2017 is given in Table 5.9.

5.25 As per the projections, there would be a consistent decline in both the male and female labour force of younger age groups up to 15-19 as a result of

increasing enrolment rates in education. In the case of males, the highest share of labour force would be in the age group 20-24 in the year 2007 and 2012 while it would be in the age group 25-29 in the year 2017. In the case of females, the highest share of labour force would be in the age group 30-34 in all the years. The age pyramids of the labour force in the years 2007, 2012 and 2017 are given in Fig. 5.8 - 5.10.

State-wise projections of UPSS Labour Force by Sector & Size

5.26 The state-wise projected LFPRs are given in Table 5.10. The state-wise UPSS labour force by sector and sex as on 1st April of 2007, 2012 and 2017 along with the growth rates are given in Annex 5.1 and state-wise and age group-wise projections are given in Annex 5.2. In general, the growth rates are higher in the case of the states with the maximum share of labour force.

5.27 As in the case of population, the projected labour force varied considerably across the states. While the projected UPSS labour force in 2007 was as high as 70.58 million in Uttar Pradesh, it was as low as 3.5 million in Himachal Pradesh. There were two states with a labour force of over 50 million and one state between 40 and 50 million. These were Uttar Pradesh, Maharashtra and Andhra Pradesh in that order. There were seven states with total labour force between 20 million and 40 million

Table 5.7: Comparative Growth Rates of Population & UPSS Labour Force between 2007 & 2012 (Percent/Annum)

Population Segment	Projected Population	Projected Labour Force	
		Planning Commission	NCEUS
Rural Males	1.05	1.77	1.77
Rural Females	1.05	1.23	1.45
Rural Persons	1.05	1.58	1.66
Urban Males	2.20	2.89	2.55
Urban Females	2.18	2.64	2.72
Urban Persons	2.19	2.84	2.59
Total Males	1.39	2.12	2.01
Total Females	1.37	1.50	1.68
Total Persons	1.38	1.92	1.91

Source : ibid

Table 5.8: Comparative Growth Rates of Population & UPSS Labour Force Projections between 2012 & 2017(Percent/Annum)

Population Segment	Projected Population	Projected Labour Force	
		Planning Commission	NCEUS
Rural Males	0.88	1.53	1.59
Rural Females	0.89	0.99	1.36
Rural Persons	0.89	1.35	1.51
Urban Males	1.93	2.28	2.04
Urban Females	1.91	2.04	1.91
Urban Persons	1.90	2.23	2.01
Total Males	1.21	1.77	1.73
Total Females	1.19	1.19	1.47
Total Persons	1.20	1.59	1.65

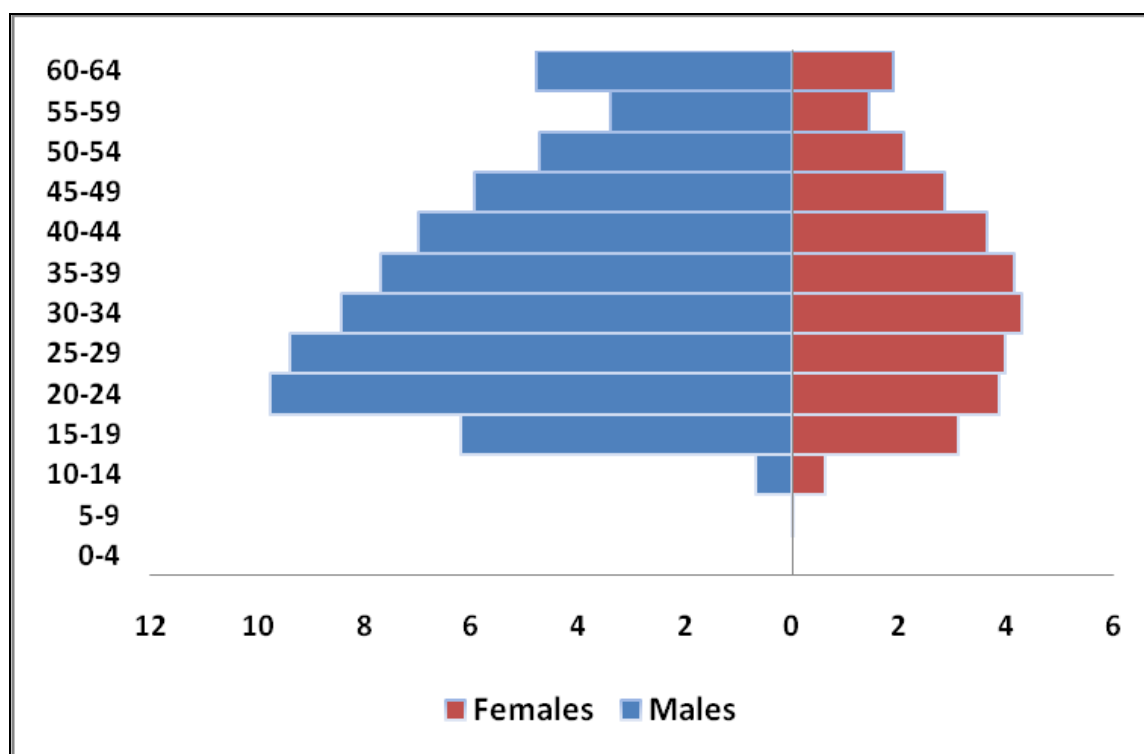
Source : ibid

Table 5.9: UPSS Labour Force Projections by Age Group & Sex

Age Group	Labour Force (million)					
	2007		2012		2017	
	Males	Females	Males	Females	Males	Females
0-4	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.08	0.08	0.05	0.04	0.05	0.03
10-14	3.38	3.04	1.41	1.33	0.58	0.35
15-19	30.37	15.21	28.62	14.40	25.39	12.62
20-24	47.77	18.93	53.99	20.95	54.64	20.94
25-29	46.01	19.43	53.26	20.82	60.69	23.62
30-34	41.26	20.94	46.02	21.94	53.28	24.03
35-39	37.74	20.23	40.76	21.91	45.46	22.93
40-44	34.15	17.79	36.75	20.00	39.71	21.57
45-49	29.13	13.88	32.93	16.55	35.44	18.61
50-54	23.16	10.20	27.25	12.35	30.85	14.69
55-59	16.67	6.96	20.33	8.40	23.98	10.11
60+	23.42	9.29	26.70	10.83	31.06	12.85
Total	333.15	155.98	368.06	169.52	401.12	182.32

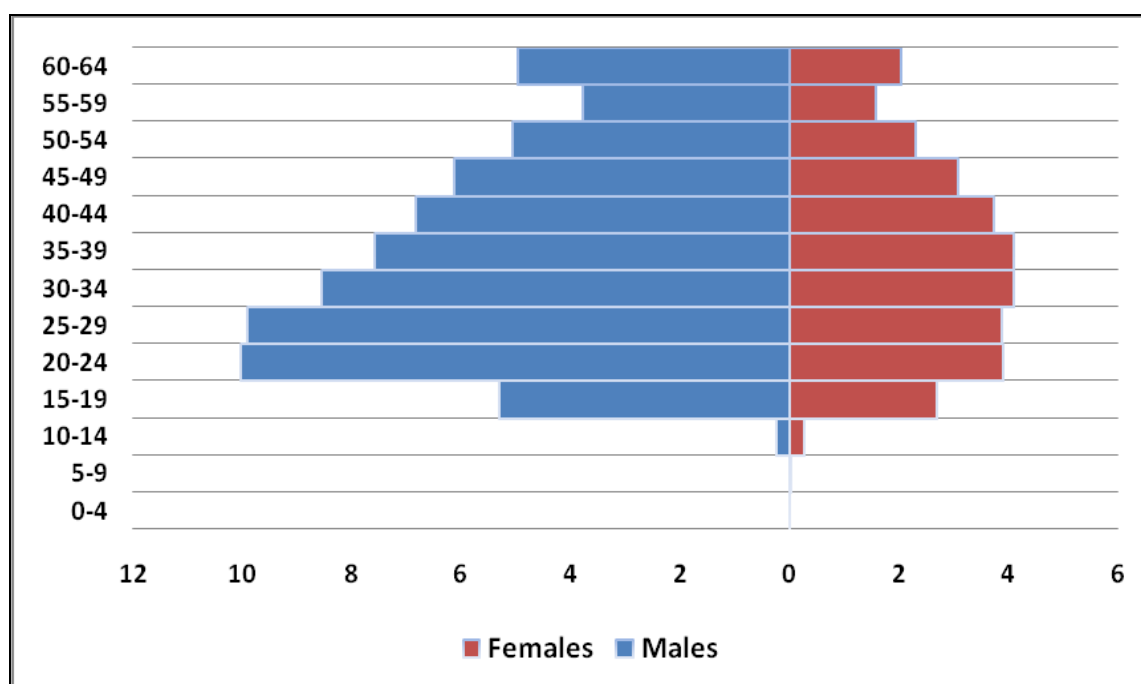
Source : ibid

Fig. 5.8: Labour Force Pyramid of India for 2007

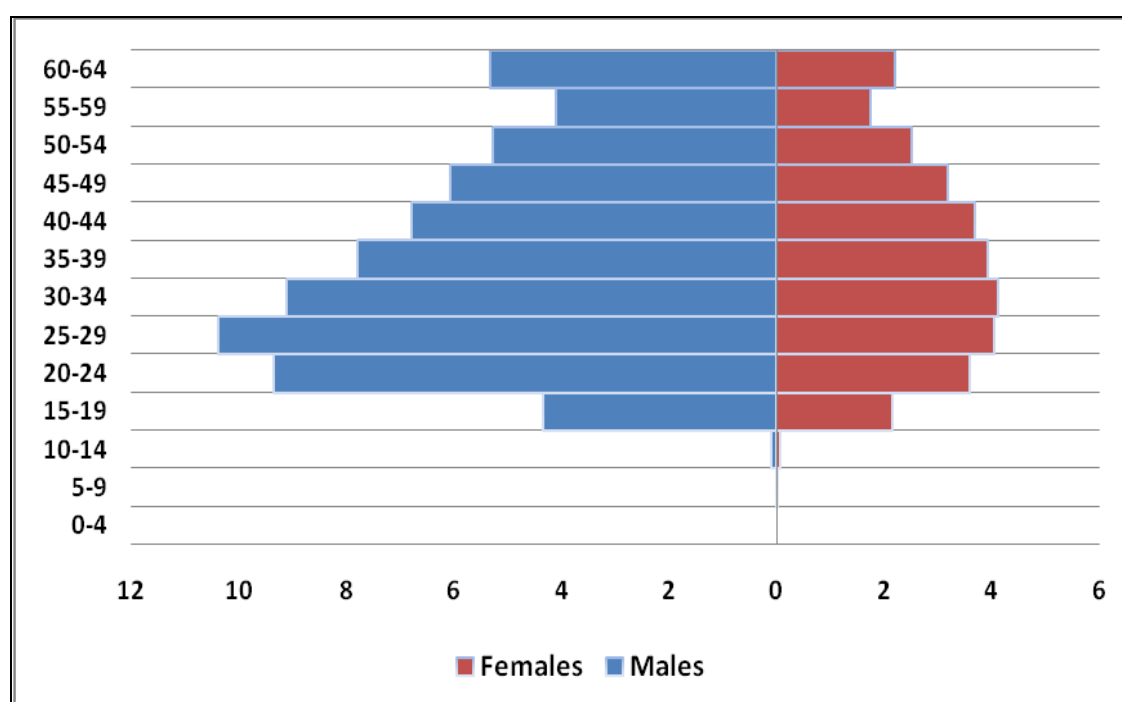


Source : ibid

Fig. 5.9: Labour Force Pyramid of India for 2012



Source : ibid



Source : ibid

Table 5.10: Projected LFPRs in India by State

State	2007			2012			2017		
	Males	Females	Person	Males	Females	Person	Males	Females	Person
Himachal Pradesh	59.34	48.82	54.19	61.50	51.11	56.43	63.22	52.36	57.93
Andhra Pradesh	61.54	41.37	51.53	62.99	42.26	52.68	64.07	42.64	53.40
Other NE	56.39	32.21	44.65	61.20	36.36	49.12	64.72	40.20	52.78
Karnataka	61.20	36.34	48.96	63.15	36.95	50.24	64.16	37.87	51.19
Orissa	60.66	32.82	46.91	62.53	34.95	48.89	63.95	36.42	50.31
Chhattisgarh	56.73	39.27	48.04	58.76	39.32	49.08	60.66	39.52	50.13
Gujarat	59.98	32.27	46.78	61.95	33.01	48.23	63.41	33.98	49.52
Uttarakhand	55.85	36.33	46.28	58.05	37.41	47.94	59.78	38.15	49.20
Madhya Pradesh	58.80	34.51	47.17	60.18	34.81	48.07	61.33	35.04	48.80
Tamil Nadu	61.71	35.68	48.76	62.31	35.36	48.88	62.50	34.40	48.48
Rajasthan	52.76	35.41	44.46	54.92	36.08	45.91	57.50	37.22	47.81
Haryana	56.36	27.30	42.98	58.48	29.62	45.23	60.22	31.94	47.27
Punjab	59.67	27.33	44.66	61.29	28.07	45.95	62.58	28.42	46.88
Kerala	61.08	31.31	45.80	61.67	30.62	45.78	62.21	30.49	46.00
J&K	58.04	27.89	43.74	59.84	27.21	44.29	62.35	27.45	45.64
Maharashtra	54.58	31.53	43.55	56.44	31.44	44.49	58.28	31.66	45.56
Jharkhand	53.67	26.44	40.46	56.76	27.15	42.39	59.61	28.60	44.54
Assam	56.65	19.84	38.78	60.07	22.22	41.65	62.62	24.22	43.88
West Bengal	60.81	17.72	39.93	63.43	17.86	41.29	65.26	17.60	42.04
Uttar Pradesh	52.49	21.29	37.73	53.94	22.26	38.96	55.17	22.91	39.90
Other states	55.79	12.54	36.30	55.57	12.09	36.11	55.94	11.86	36.47
Bihar	51.42	15.30	34.06	54.19	14.46	35.04	57.23	13.82	36.23
All India	56.97	28.61	43.29	58.75	29.05	44.43	60.28	29.44	45.41

Source : ibid

and another 12 states/groups of states with labour force less than 20 million in 2007. The growth rates in labour force over the years also varied significantly across the states. While some of the states recorded growth rates of over 2 percent per annum some others recorded growth rates lower than one percent per annum. The growth rates can be grouped into (i) 2 percent and above (ii) greater than the national average but less than 2 percent (iii) less than the national average but greater than one percent and (iv) less than one percent. The classification of states both by the size of labour force and its growth rates between 2007 and 2012 is given in Table 5.11.

5.28 The low growth states of Tamil Nadu and Kerala had a share of 9.70 percent in the total labour force during

2007, while the states with growth rates above one percent but below the national average had a share of 41.71 percent. The high growth states, however, had a larger share of 48.59 percent.

5.29 The growth rates of males and females also varied significantly among the states. The states with high growth rates in male labour force were not necessarily the same as those with high growth rates in female labour force. The classification of states with different levels of growth among males and females is given in Table 5.12.

5.30 The classification of states by growth rates of male, female and total labour force during the first period (2007-12) and the second period (2012-17) are given in Table 5.13 and 5.14 respectively.

Table 5.11: Classification of States by Size of Labour Force & Growth Rates in Total Labour Force between 2007 & 2012

Size of Labour Force(million)	Growth Rates			
	Below one percent	Between one percent and national average	Between national average and two percent	More than two percent
Over 50		Maharashtra		Uttar Pradesh
Between 40 and 50		Andhra Pradesh		
Between 20 and 40	Tamil Nadu	Karnataka, West Bengal		Bihar, Gujarat, Madhya Pradesh, Rajasthan
Below 20	Kerala	Himachal Pradesh, Jammu & Kashmir, Orissa, Punjab, Chhattisgarh		Assam, Haryana, Jharkhand, Uttarakhand, Other NE States, Other states

Source : ibid

Table 5.12: Classification of States by Growth Rates of Male and Female Labour Force during 2007-12

Growth Rates	Total Labour Force	Male Labour Force	Female Labour Force
Less than one percent	Tamil Nadu , Kerala	Tamil Nadu , Kerala	Tamil Nadu , Kerala, Jammu & Kashmir, Bihar
More than one percent but less than national average	Andhra Pradesh, Karnataka, West Bengal, Orissa, Himachal Pradesh, Punjab, Chhattisgarh, Maharashtra, Jammu & Kashmir,	Andhra Pradesh, Himachal Pradesh, Jammu & Kashmir, Karnataka, Maharashtra, Orissa, Punjab, West Bengal	Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Punjab, West Bengal, Chhattisgarh
More than national average but less than two percent			Gujarat, Rajasthan, Jharkhand, Himachal Pradesh,
More than two percent	Bihar, Gujarat, Madhya Pradesh, Uttarakhand, Rajasthan, Jharkhand, Uttar Pradesh, Assam, Haryana, Other NE States, Other states	Assam, Bihar, Gujarat, Haryana, Madhya Pradesh, Rajasthan, Uttar Pradesh, Jharkhand, Chhattisgarh, Uttarakhand, Other NE States, Other states	Assam, Haryana, Orissa, Uttarakhand, Other NE States, Other states

Source : ibid

5.31 The states with a growth rate of over 2 percent in total labour force decreased from 11 to 7 during the second period. In the case of males, it reduced from 12 to 9 between the two periods.

Projected MCWS Labour Force

5.32 We had argued earlier (see Chapter 3) that the MCWS measure would give us a relatively more rigorous

definition of labour force since it is based on the intensity of work performed and those available for work. The projected MCWS Labour Force as on 1st April 2007 was 450.32 million as compared to 489.13 million as per UPSS measurement. The difference is about 38.8 million. The projections for 2002 and 2017 are 501.17 million and 550.53 million respectively. A comparison of UPSS and MCWS labour force projections is given in Table 5.14.

Table 5.13: Classification of States by Growth Rates of Male & Female Labour Force during 2012-17

Growth Rates	Total Labour Force	Male Labour Force	Female Labour Force
Less than one percent	Tamil Nadu , Kerala	Tamil Nadu , Kerala	Bihar, Kerala, Tamil Nadu , West Bengal,
More than two percent but less than national average	Andhra Pradesh, Himachal Pradesh, Karnataka, Maharashtra, Orissa, Punjab, West Bengal	Andhra Pradesh, Himachal Pradesh, Karnataka, Maharashtra, Orissa, Punjab, West Bengal	Andhra Pradesh, Himachal Pradesh, Jammu & Kashmir, Karnataka, Maharashtra, Punjab, Chhattisgarh
More than national average but less than two percent	Bihar, Gujarat, Jammu & Kashmir, Madhya Pradesh, Chhattisgarh, Uttarakhand,	Gujarat, Jammu & Kashmir, Chhattisgarh, Uttarakhand,	Gujarat, Madhya Pradesh, Orissa, Uttarakhand, Other states
Higher than two percent	Assam, Haryana, Rajasthan, Uttar Pradesh, Jharkhand, Other NE States, Other states	Assam, Bihar, Haryana, Madhya Pradesh, Rajasthan, Uttar Pradesh, Jharkhand, Other NE States, Other states	Assam, Haryana, Rajasthan, Jharkhand, Other NE States,

Source : ibid

Table 5.14: Comparison of Projected UPSS & MCWS Labour Force

Year	Sector	Sex	Projected Labour Force(million)		Difference	Additions during Five Years (million)	
			UPSS	MCWS		UPSS	MCWS
2007	Rural	Males	230.8	222.79	8.01		
		Females	128.4	102.11	26.29		
		Persons	359.2	324.9	34.3		
	Urban	Males	102.3	100.61	1.69		
		Females	27.6	24.8	2.8		
		Persons	129.9	125.41	4.49		
	Total	Males	333.1	323.4	9.7		
		Females	156	126.91	29.09		
		Persons	489.1	450.31	38.79		
2012	Rural	Males	252	244.08	7.92	21.2	21.29
		Females	138	113.52	24.48	9.6	11.41
		Persons	390	357.6	32.4	30.8	32.7
	Urban	Males	116.1	114.49	1.61	13.8	13.88
		Females	31.5	29.08	2.42	3.9	4.28
		Persons	147.6	143.57	4.03	17.7	18.16
	Total	Males	368.1	358.57	9.53	35	35.17
		Females	169.5	142.6	26.9	13.5	15.69
		Persons	537.6	501.17	36.43	48.5	50.86
2017	Rural	Males	272.7	264.75	7.95	20.7	20.67
		Females	147.7	126.42	21.28	9.7	12.9
		Persons	420.4	391.17	29.23	30.4	33.57
	Urban	Males	128.4	126.74	1.66	12.3	12.25
		Females	34.6	32.6	2	3.1	3.52
		Persons	163	159.34	3.66	15.4	15.77
	Total	Males	401.1	391.49	9.61	33	32.92
		Females	182.3	159.02	23.28	12.8	16.42
		Persons	583.4	550.51	32.89	45.8	49.34

Source : ibid

5.33 The maximum difference between UPSS and MCWS projections was in the case of rural females. Though the level of labour force as per MCWS was lower, the net addition over the years was large. The growth rates of the projected labour force are accordingly higher in the case of MCWS measurement. Between 2007 and 2012 it was 1.91 percent as per UPSS, while it was 2.16 percent as per MCWS. Similarly the growth rate between 2012 and 2017 was projected to be 1.90 percent as per MCWS against 1.65 percent as per UPSS.

State-wise Projections of MCWS Labour Force

5.34 Projections of labour force by state and population segments in terms of MCWS measurement are given in Annex 5.3 and state-wise and age group wise projections are in Annex 5.4. Though the absolute

values of projected labour force differ between the UPSS and MCWS projections, the relative positions of the states are comparable under both the concepts. In respect of the magnitude of labour force Uttar Pradesh, Maharashtra and Andhra Pradesh are the top three states in descending order which together accounted for about one-third of the total labour force in the country in 2007.

Additions to Labour Force

5.35 Given the differential growth rates in labour force across the states, we need to find out the distribution of the additional labour force. The additions during 2007-12 and 2007-2017 are given in Table 5.15. During the 11th Plan period (2007-12), majority of the additional labour force would be concentrated in 6 states and the same would hold for the ten year period between 2007 and 2017 also. It is reasonable to expect that there will

Table 5.15: Additions to Labour Force across States (million)

State	As per UPSS		As per MCWS	
	2007-12	2007-17	2007-12	2007-17
Andhra Pradesh	3.0 (6.2)	5.5 (5.8)	3.4 (6.6)	6.0 (6.0)
Assam	1.6 (3.3)	3.1 (3.3)	1.4 (2.8)	2.8 (2.8)
Bihar	3.3 (6.8)	6.7 (7.1)	3.4 (6.6)	6.8 (6.8)
Chhattisgarh	1.1 (2.2)	2.1 (2.2)	1.0 (2.0)	2.1 (2.1)
Gujarat	2.7 (5.6)	5.4 (5.7)	2.9 (5.8)	5.7 (5.6)
Haryana	1.5 (3.1)	3.0 (3.2)	1.6 (3.1)	3.1 (3.1)
Himachal Pradesh	0.3 (0.7)	0.6 (0.6)	0.3 (0.6)	0.6 (0.6)
J&K	0.4 (0.8)	0.9 (0.9)	0.4 (0.7)	0.8 (0.8)
Jharkhand	1.5 (3.1)	3.1 (3.3)	1.4 (2.7)	4.4 (4.4)
Karnataka	2.3 (4.7)	4.3 (4.6)	2.5 (5.0)	4.6 (4.6)
Kerala	0.6 (1.2)	1.1 (1.2)	0.9 (1.7)	1.4 (1.4)
Maharashtra	4.7 (9.7)	9.1 (9.7)	5.3 (10.4)	10.2 (10.1)
Madhya Pradesh	3.2 (6.6)	6.5 (6.9)	3.0 (5.9)	6.0 (6.0)
Orissa	1.7 (3.4)	3.1 (3.3)	1.2 (2.4)	2.5 (2.4)
Punjab	1.1 (2.2)	2.0 (2.1)	1.6 (3.1)	3.0 (2.9)
Rajasthan	3.4 (7.1)	7.2 (7.6)	3.4 (6.7)	7.0 (7.0)
Tamil Nadu	1.2 (2.4)	1.8 (1.9)	1.8 (3.5)	2.8 (2.8)
Uttar Pradesh	9.1 (18.8)	17.9 (19.0)	9.4 (18.5)	18.9 (18.9)
Uttarakhand	0.5 (1.0)	1.0 (1.0)	0.5 (0.9)	1.3 (1.3)
West Bengal	2.9 (6.0)	5.3 (5.6)	3.1 (6.1)	5.7 (5.6)
Other NE	1.0 (2.0)	1.9 (2.0)	0.9 (1.8)	1.8 (1.8)
Other states	1.6 (3.3)	2.8 (3.0)	1.6 (3.2)	2.9 (2.9)
All India	48.5 (100)	94.3 (100)	50.9 (100)	100.2 (100)

Note: Figures in brackets indicate percentage share.

Source : ibid

be movement of labour from the relatively surplus states to states that would offer a market for such labour. This will have important implications for migration. Such labour migration would be, by and large, among the unskilled and the less educated, seeking manual wage work given the high share of such labour in the total labour force and especially in some of the larger states.

Educational Status

5.36 The state-wise distribution of projected labour force by educational status according to UPSS measure is given in Annex 5.5 and according to MCWS measure is given in Annex 5.6. There is a consistent reduction with time in the aggregate illiterate labour force. But 28 percent or 164 million of India's labour force will still remain illiterate in 2017. To this we must add those with education not above primary level, which would constitute another 25 percent or 144 million. These two together constituting the 'least educated' would number to more than half (nearly 53 percent) of India's labour force. It is this dimension of the problem that would make the demographic dividend arising from an increase in the share of the working age population into a demographic burden if not a disaster. If this demographic burden has to metamorphose into demographic dividend, properly conceived and well-designed policy interventions, especially in respect of functional literacy and skill formation along with provision of such basic social security as food and health care assumes critical importance. Access to employment for such literate and skilled people will be realized as the demographic dividend. The projected UPSS labour force by educational level for the country as a whole is given in Table 5.16. The same for the projected MCWS labour force is given in Table 5.17.

5.37 As per UPSS measure, the percentage of illiterates in the labour force would decrease from 35.5 percent in 2007 to 31.4 percent in 2012 and further to 28.1 percent in 2017. The share of those with education up to primary level will almost remain static. The shares of those with higher levels of education would increase consistently.

5.38 As per MCWS measure also similar trends are visible except that the percentage of those with education

up to primary level will also get reduced marginally over the years. The marginal increase in the share of the workers by MCWS status shows that the subsidiary and part-time workers who are captured in the UPSS measures are the relatively less educated, perhaps the least educated.

5.39 The continuing demographic burden as revealed by the proportion of the least educated in the labour force might somewhat ease in terms of the share, albeit the absolute number will marginally increase - from 294 million in 2007 to 307 million in 2017 (Table 5.16). As figures 5.11 and 5.12 vividly portray, there is a sharp gender divide in that the incidence of the least educated is considerably higher among women than among men. While 58 percent of the women were the least educated in 2007, only 26 percent men came in this category. The male-female divide will further widen by 2017 despite continued reductions in the proportion of the least educated to 49 percent and 18 percent for women and men respectively. In the case of all the other educational levels women's achievement will continue to be around half that of men.

5.40 Despite the high visibility accorded to gender issues in development, the fact that a reasonable basic education continues to remain elusive for the majority of women should be viewed as a telling commentary on the differences between precept and practice, rhetoric and reality. That this is only one of the many manifestations of the differential human deprivation was brought out in our earlier Report on Conditions of Work and Promotion of Livelihoods (NCEUS 2007a). We showed there that the incidence of the least educated women mostly happened to be the overlapping group of the socially disadvantaged (STs, SCs and Muslims in that order), to the poor and vulnerable households, located in rural areas and working mostly, if not only, in the primary sector of the economy. What the projections presented here underline is the uncomfortable fact that at the historical pace of change, the situation is unlikely to improve but only marginally even at the end of the 12th Plan i.e. 2017. Once again, this reinforces our argument for a concerted national effort, positively discriminating in favour of the seven states that account for 67 percent of the problem of the least educated.

Table 5.16: Distribution of UPSS Labour Force by Educational Level

Educational Level		Projected UPSS Labour Force			Additions
Numbers (million)					
	2007	2012	2017	2007-12	2012-17
Illiterate	173.62	168.75	163.86	-4.87	-4.89
Primary &below	120.72	132.71	143.64	11.99	10.93
Middle	80.24	95.95	110.83	15.71	14.88
Secondary & HS	80.23	97.39	113.89	17.16	16.5
Graduate& above	34.32	42.91	51.26	8.59	8.35
Total	489.13	537.7	583.49	48.57	45.79
Percentage Distribution					
Educational Level	2007	2012	2017	2007-12	2012-17
Illiterate	35.50	31.38	28.08	-10.03	-10.68
Primary &below	24.68	24.68	24.62	24.69	23.87
Middle	16.40	17.84	18.99	32.35	32.50
Secondary & HS	16.40	18.11	19.52	35.33	36.03
Graduate& above	7.02	7.98	8.79	17.69	18.24
Total	100.00	100.00	100.00	100.00	100.00

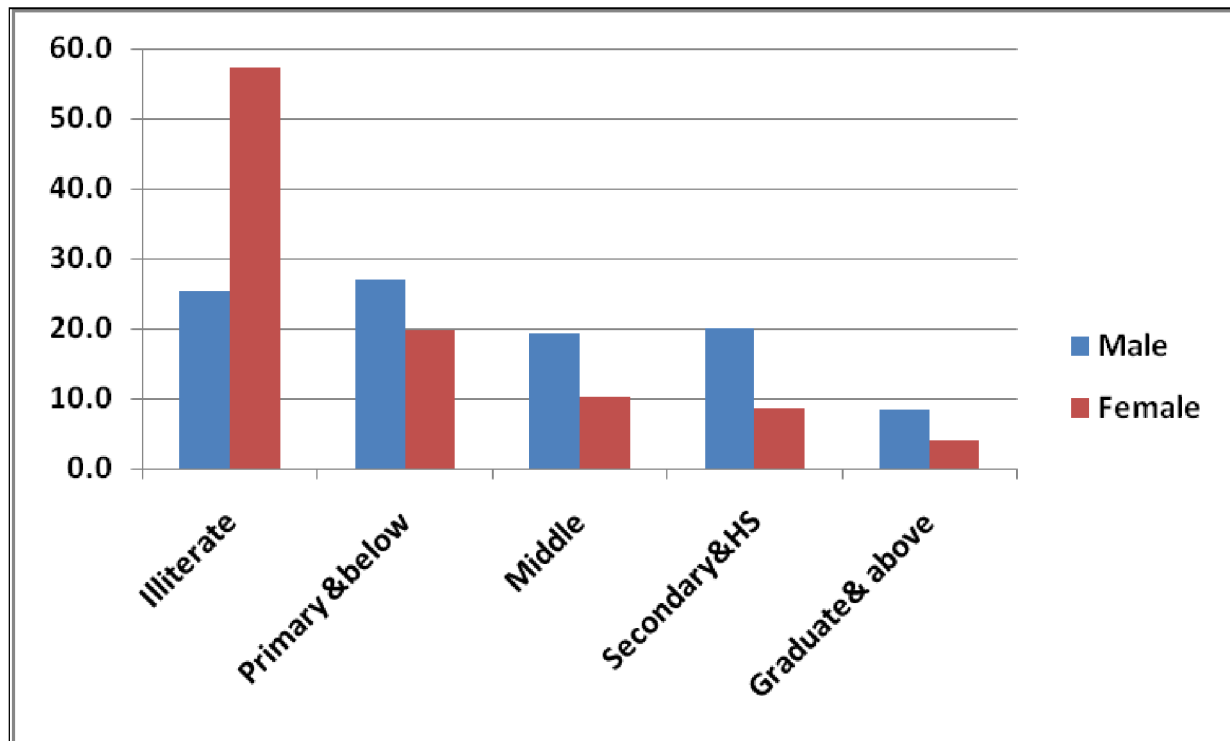
Source : ibid

Table 5.17: Distribution of MCWS Labour Force by Educational Level

Educational Level		Projected MCWS Labour Force			Additions
Numbers (million)					
	2007	2012	2017	2007-12	2012-17
Illiterate	153.27	151.11	149.59	-2.16	-1.52
Primary &below	112.46	124.55	135.85	12.09	11.3
Middle	75.34	90.74	105.5	15.4	14.76
Secondary & HS	76.33	93.37	109.87	17.04	16.5
Graduate& above	32.91	41.41	49.72	8.5	8.31
Total	450.32	501.17	550.63	50.85	49.46
Percentage Distribution					
Educational Level	2007	2012	2017	2007-12	2012-17
Illiterate	34.04	30.15	27.17	-4.25	-3.07
Primary &below	24.97	24.85	24.67	23.78	22.85
Middle	16.73	18.11	19.16	30.29	29.84
Secondary & HS	16.95	18.63	19.95	33.51	33.36
Graduate& above	7.31	8.26	9.03	16.72	16.80
Total	100.00	100.00	100.00	100.00	100.00

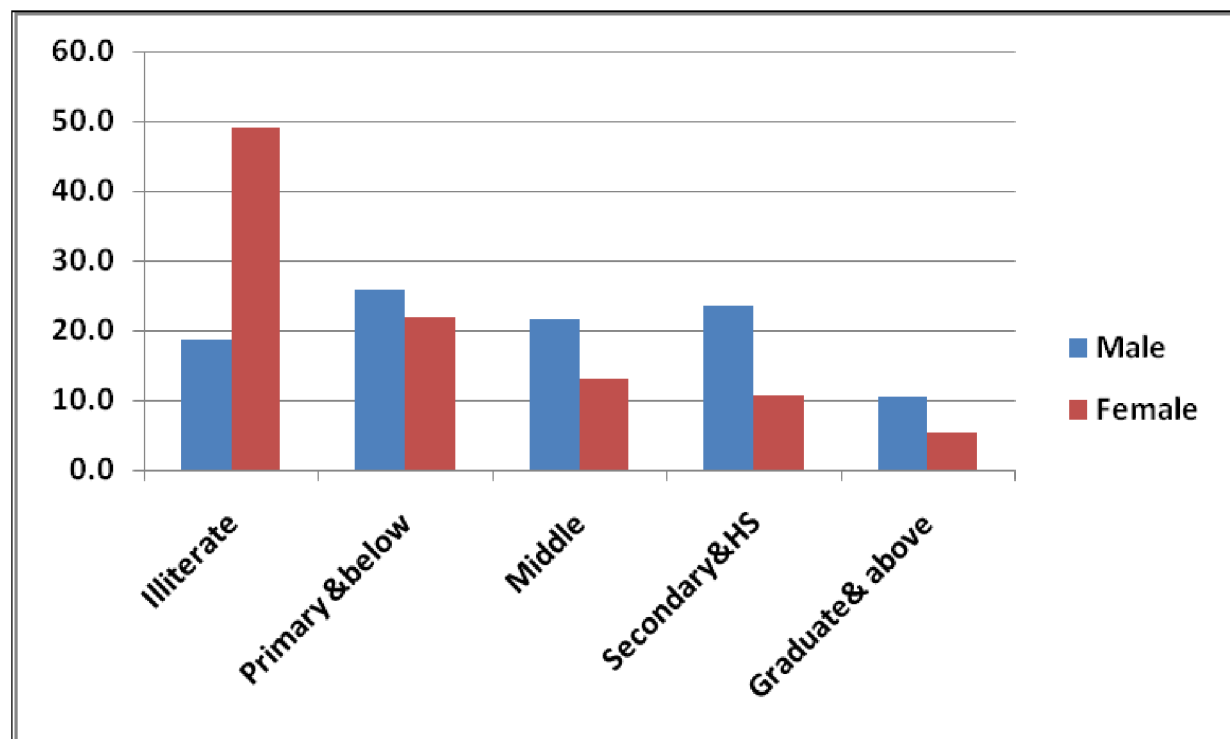
Source : ibid

Fig. 5.11: Percentage Distribution of Labour Force (UPSS) by Education Levels Sex in 2007



Source : ibid

Fig. 5.12: Percentage Distribution of Labour Force (UPSS) by Education Level & Sex in 2017



Source : ibid

5.41 This warrants us to examine the situation from a regional perspective. The distribution of the projected labour force by educational levels across the states (Table 5.18) brings out rather sharply that the problem is mainly confined to ten or eleven of the 28 states and union territories in India. Let us look at the basic problem of illiteracy and identify the states that may not be able to, given the current pace of change, reduce it below 25 percent even by 2017. There are ten such states viz., Rajasthan, Andhra Pradesh, Uttar Pradesh, Madhya Pradesh, Bihar, Jammu and Kashmir, Jharkhand, Chattisgarh, Karnataka and Orissa. They account for 75 percent of the total projected illiterate labour force of 164 million in 2017. If we move the scale to the least

educated (illiterate plus those not more than primary level) and identify states with 50 percent or more of their labour force in this category in 2017, then the list will increase to eleven with the addition of West Bengal to the already mentioned ones. This means that of the eleven states with the highest incidence of the least educated, ten states also belong to the list of highest incidence of the illiterate labour force.

5.42 Some comments would be in order here to drive home the fact that the list includes not only states that have been identified as backward such as the BIMARU but also those known for their proactive state policies in attracting investment in knowledge-intensive industries

Table 5.18: Percentage Distribution of Labour Force by Education Level across States

State/UT	Illiterate		Primary & Below Primary		Middle		Secondary & Higher Secondary		Graduate & above	
	2007	2017	2007	2017	2007	2017	2007	2017	2007	2017
Andhra Pradesh	49.51	42.82	20.92	20.26	11.50	13.92	12.91	16.23	5.13	6.77
Assam	17.82	6.87	40.34	45.01	22.34	26.42	14.54	15.88	4.96	5.83
Bihar	45.47	34.36	22.10	25.46	11.92	14.07	15.36	20.16	5.12	5.96
Chhattisgarh	40.16	27.02	31.64	35.84	12.78	18.19	10.06	11.57	5.35	7.31
Gujarat	29.51	22.77	23.50	19.53	20.32	25.69	20.13	24.48	6.54	7.56
Haryana	30.72	24.18	24.46	23.65	11.15	11.37	25.54	30.02	8.12	10.77
Himachal Pradesh	21.79	13.40	31.84	33.97	12.29	12.68	27.37	31.10	6.70	8.85
J&K	36.63	32.46	18.93	19.02	20.58	23.21	18.72	19.90	5.14	5.58
Jharkhand	43.53	32.06	22.72	28.44	14.84	16.66	13.02	15.80	5.89	6.98
Karnataka	37.33	28.86	22.73	23.56	17.39	21.29	16.17	18.62	6.38	7.70
Kerala	6.05	5.27	23.75	15.69	32.99	35.25	28.56	33.43	8.65	10.36
Maharashtra	24.30	16.86	21.34	18.75	23.39	26.11	22.07	26.97	8.94	11.29
Madhya Pradesh	44.38	35.15	27.01	28.29	11.06	14.41	10.86	12.77	6.65	9.41
Orissa	39.97	29.19	26.30	27.19	17.68	21.58	10.30	13.78	5.75	8.26
Punjab	27.31	19.09	24.26	25.83	12.21	11.61	28.24	33.31	8.06	10.23
Rajasthan	50.74	43.02	22.10	23.69	12.15	14.70	10.23	12.89	4.75	5.71
Tamil Nadu	25.33	21.61	30.29	26.43	16.46	16.88	18.80	21.56	9.15	13.54
Uttar Pradesh	43.59	36.20	20.57	21.08	15.67	18.42	13.88	16.31	6.29	8.01
Uttarakhand	30.25	23.96	20.09	17.74	20.09	24.34	21.02	26.23	8.55	7.55
West Bengal	28.38	23.68	35.21	35.88	15.28	16.50	13.34	15.24	7.82	8.72
Other NE	18.03	8.22	35.88	37.48	21.60	25.42	17.01	19.77	7.48	8.99
Other states	10.42	5.58	19.95	19.00	16.34	19.28	28.83	30.62	24.45	25.52
All India	35.50	28.08	24.68	24.62	16.40	18.99	16.40	19.52	7.02	8.79

Source : ibid

and e-governance (Andhra Pradesh and Karnataka) as well as those where majority of the workforce are already in the non-agricultural sector and with a supposedly pro-poor government for more than three-decades (West Bengal). In the southern Indian context, Andhra Pradesh's poor record in social sector development has been highlighted in the recent AP State Development Report (CESS 2006) as well as in a number of other studies. While Karnataka's record is better than that of Andhra Pradesh, the fact that a majority of its labour force will continue to be the least educated is in sharp contrast to its media image as a place for knowledge-intensive employment. The underlying common message, in our view, is the reality of social exclusion of vast masses of the working poor in the country as a whole and its heightened presence in these states as far as access to basic education is concerned.

Policy Implications

5.43 Several policy implications follow from the labour force projections for the next ten year period covering the 11th and 12th Plans of the country. Before we list them, it is important to state the following main differences between the methodologies used by the Planning Commission and the NCEUS for the projection of labour force:

First, the Planning Commission has used UPSS and CDS measures for the projection of labour force while NCEUS has used UPSS and MCWS measures. UPSS is a broad measure that conceals, to a great extent, the problem of underemployment in the country; it captures all those who are working or available for work. The MCWS captures the universe of the labour force in a more focused manner. As we demonstrated in Chapter 3, it also helps to identify not only the open unemployed category but also those who are underemployed as well as employed only on a part-time basis.

Second, the Planning Commission projections were made at the all India level, oblivious of state-wise variations. Any policy based on such aggregate estimates is doomed to fail as it fails to obey the cybernetic law of requisite variety (Ashby's Law of Requisite Variety). Given the

significant variations across the states in India and the need to factor that in employment policies at the stages of both design and implementation at the state level, we feel it important to have the state-level projections of the labour force and their characteristics. Accordingly NCEUS has made the projections at the state level separately for each population segment and all India projection has been obtained by aggregation.

Third, the Planning Commission used age and education specific LFPRs obtained from the NSSO's 61st Round Employment-Unemployment Survey for projecting labour force and did not take into account the historical trends. The NCEUS used the age-sex-residence LFPRs of 1983, 1993-94 and 2004-05 for projecting LFPRs for each year. In this way, we were in a position to make projections consistent with the earlier trends.

Lastly, the Planning Commission did not account for the declining trend in the LFPRs of younger age groups and those aged sixty and above. These trends were taken into account in the NCEUS projections. This is especially important in the context of a rising enrolment rate of children in educational institutions that should be viewed, however slow, as a positive development.

5.44 From a policy point of view, the projections here show the enormity of the employment challenge, especially of a kind that will offer gainful employment which will, at the minimum, ensure the basic needs of the households with socially acceptable conditions of work. The size of India's labour force in 2007 was estimated at 489 million that is higher than the total population in 1961. In 2012 the size of the labour force will be in the range of 538 million that would be very close to the total population in 1971. By 2017 India's labour force would exceed the total population in 1971 by 45 million.

5.45 The increasing size of the labour force was determined by the past population growth rates that were historically unprecedented mainly as a result of the gains in reducing mortality, without a corresponding reduction

in birth rates. During the 11th Plan period, the labour force would continue to grow at around 1.9 percent annually and is expected to decline to around 1.6 percent annually during the 12th Plan. While policies and programmes for reducing the population growth have been in place for some time, the progress has been somewhat slow. Moreover, such progress as was registered in the past has been uneven across the states; a majority of them are yet to attain the replacement level fertility rate. Attention of the policy makers therefore needs to be directed at the state-level for effective implementation of population stabilization policies. From the experience of other countries as well as those states within India, women's education complemented by food and nutritional security, especially of the mothers and children and adequate health care seems to be quite critical. Any further improvement in population growth will be translated into a slower pace of the labour force growth only after a lag of 15 years.

5.46 Such progress as has been made in the recent past has already started showing up in an increase in the working age population that could potentially contribute to what is called the demographic dividend. The realization of such a demographic dividend is, however, dependent on a number of preconditions. First and foremost, the accelerating economic growth rate has to be such that it creates gainful employment. Second, the labour force should have minimum levels of educational attainments and skill levels so as to contribute to productivity and secure adequate returns. Third, the process of economic development should help the increasing labour force move away from low productivity sectors such as agriculture into high productivity sectors.

5.47 In the absence of such a concomitant process of change, the expected demographic dividend could well turn out to be a demographic burden. In this respect, India lags considerably behind its counterparts in both the east and the south-east Asia. There is considerable backlog of illiterate men and women as well as those with low levels of education that would hardly make for the ability to acquire skills and knowledge. To avoid the prospect of this demographic burden, focused policies are called for. Two main elements of such a policy are: access to functional literacy and skill development and

basic social security to take care of food/nutrition and health care.

5.48 On both the counts, the problem is more serious among women in general and women workers in particular. There is, thus, the need to reorient and strengthen policies and programmes. States that warrant special attention with appropriate regional policies and programmes are Rajasthan, Andhra Pradesh, Uttar Pradesh, Madhya Pradesh, Bihar, Jammu and Kashmir, Jharkhand, Chattisgarh, Karnataka, Orissa and West Bengal.

5.49 However, equal attention needs to be given to those with some general education but without any formal skill acquisition. Those with middle level of education will be close to 18 percent of the total labour force by the end of the 11th Plan. An equal share will also be of the group with secondary with or without higher level of training but not a college degree. These two groups would then constitute close to 36 percent of the labour force or closer to 200 million. They would require training in specialized skills if they are to be absorbed in employment demanding skills and consequently decent level of earnings. This group is also likely to be more vocal than their poorer counterparts with lower levels of education and would also be more aspiring than the former.

5.50 The group with higher educational qualifications had not only been reasonably taken care of but also witnessed expansion of opportunities in the recent past with the entry of a large number of self-financing (mainly private sector) educational initiatives. The recently started 30 Central Universities and a large number specialized institutions have also created opportunities at the top end of the educational spectrum. The challenge here is mainly one of quality and the ability to generate such specialized knowledge and skills demanded by a fast expanding economy.

5.51 From the perspective of the informal economy which will continue to dominate the Indian labour force for years to come, the challenge is to meet the ends of the first two groups that we mentioned above. Inadequate attention to this huge base of India's educational pyramid will not only further accentuate the existing unacceptably

high levels of inequality but might even lead to social tensions and conflicts that would be detrimental to the long term development of the society in general and the economy in particular.

5.52 The issue of skill formation has therefore received our focused attention and a detailed report called *Skill Development in the Informal Economy* has been submitted to the Government. The report discussed in

Chapter 7 the main elements of the skill situation and a programme for skill formation and development arising out of our analysis of the size, growth and characteristics of India's labour force. A combined programme of functional literacy with skill formation and up-gradation for the least educated members of the labour force along with skill development programmes for those with middle school level of education and above but not higher college education is therefore urgently called for.

Appendix 5.1: Methodology for Projection of Population & Labour Force

Projections of Population by Age, Sex and Residence

Projection of population by age and sex for the period 2001-2026 has been worked out by an Expert Committee constituted by the National Population Commission. The Committee has also made projections of rural and urban totals. However, in order to make labour force projections by applying projected labour force participation rates, projected population for urban and rural areas by age and sex are required. These population projections were made by the International Institute of Population Studies (IIPS) at the instance of NCEUS.

The methodology involved the projection of population in urban areas by sex and age, applying corrections for rural-urban migration and obtaining projections for rural areas by subtracting age-sex projections for urban population from the projections made by the Expert Committee for total population. The age-sex projections of population for urban areas were made by using the 'Cohort Component Method (CCM)' for major states and the 'Ratio Method' for smaller states and union territories.

Cohort Component Method

The use of Cohort Component Method requires the following inputs:

- (i) Smoothed age-sex distribution of the population for the base year
- (ii) Age-specific fertility rates for the base and terminal years
- (iii) Life expectancy at birth for the base and the terminal years
- (iv) Sex ratio at birth

(i) Smoothed Age-Sex Distribution of Urban Population

The Census 2001 age-sex distribution of urban population was smoothed by using a three-point moving average formula:

$$S_2 = 0.25U_1 + 0.5U_2 + 0.25U_3$$

$$S_i = 0.25U_{i-1} + 0.5U_i + 0.25U_{i+1}$$

Where $S_2 = S_{5-9}$ = Smoothed population of the second age group 5-9

$U_1 = U_{0-4}$ = Observed population of the first age group 0-4

$U_2 = U_{5-9}$ = Observed population of the second age group 5-9 and so on.

Smoothed population of the first and the last age groups are obtained by using the following formulae

$$S_{0-4} = U_{0-14} - [S_{5-9} + S_{10-11}]$$

$$S_{75+} = U_{15-80} - [S_{15-19} + S_{20-24} + \dots + S_{70-74}]$$

$$S_{75-79} = 0.65S_{75+} \text{ for males}$$

$$S_{75-79} = 0.60S_{75+} \text{ for females}$$

$$S_{80+} = S_{75+} - S_{75-79}$$

The smoothed population of North Eastern Region was obtained after combining all the seven states except Assam but including Sikkim.

(ii) Age-specific Fertility Rate (ASFR) & Total Fertility Rate (TFR)

Age-specific fertility rate for the base period is obtained from sample registration system (SRS). A Gompertz Curve was fitted using urban total fertility rate for each year provided by SRS during 1981-2000 as it provides reliable estimates of fertility and mortality from 1981 onwards. Thereafter, urban total fertility rate is projected during 2001-2017 by taking upper and lower asymptotes. The upper limit (U) for low TFR states was taken as 6 children per women, for medium TFR states it was taken as 6.5 children and for high TFR states it was considered as 7. These assumptions are the same as considered in the National Population Commission report. The lower limit (L) taken as 1.6 for low TFR states, 1.8 for medium TFR states and 2.1 for high TFR states.

$$\ln(-(\ln(\text{TFR}-L)/(\text{U}-L))) = \ln(-\ln.a) + t.\ln.b$$

High fertility states: Bihar, Haryana, Madhya Pradesh, Rajasthan, Uttar Pradesh, Jharkhand, Chhattisgarh and Uttarakhand

Medium fertility states: Assam, Gujarat, Himachal Pradesh, Karnataka, Maharashtra, North Eastern Region and Punjab

Low fertility states: Andhra Pradesh, Jammu & Kashmir, Kerala, Orissa, Tamil Nadu and West Bengal

Average age-specific fertility rates were computed for the years 1999, 2000 and 2001 from the SRS. The pattern of fertility was assumed constant over the projection period. However, for Himachal Pradesh, the projected urban total fertility rate was obtained by fitting 1991-2000 SRS fertility estimates. On the other hand, SRS does not have enough time series observations for Uttarakhand, Chhattisgarh and Jharkhand. We assumed the same rate of total fertility for their parent states in SRS during 1981 to 1998, but for these three new states fertility rates are estimated by using the proportion of (0-6) population from Census 2001. A similar procedure is followed by the National Population Commission in the case of projecting total population. The average age-specific fertility rates for Jharkhand and Chhattisgarh were obtained from SRS 2004-06.

In case of North Eastern Region, Rele's (1967) method has been used to provide fertility estimates from Census 2001 age data. It was assumed that fertility will attain the level of 1.8 children per woman by 2017. For North Eastern Region and Uttarakhand fertility estimates were calculated from Census 2001 data on children ever born. The SRS does not provide time series data on total fertility rate for Jammu and Kashmir. However, the national family health surveys (NFHS) give age-specific fertility rates as well as total fertility rate for the period approximately 1996-98 (NFHS II) and for 2003-05 (NFHS III). The average of these rates was incorporated for projecting the fertility rate for Jammu and Kashmir.

Weighted average of the projected urban total fertility rates for 21 states was assumed as the projected fertility for the country as whole where the state's weights being the respective percentage share of the country's urban female population in the age group 15-49.

(iii) Life Expectancy at Birth (e_0^0)

To project the life expectancy at birth (LEB), life tables have been constructed using urban age-specific death rates (ASDR) for the years 1999, 2000 and 2001 separately for males and females. These rates are available from SRS report 2001 published by the office of the Registrar General and Census Commissioner of India. Similar to the report of the National Commission on Population, three years average was used, since the year wise age-specific rates often show fluctuations especially at the state level. Later it was assumed that the mortality would follow the West Model Life Table pattern. In addition to it, the expected annual increment in the life expectancy by sex was

given by observing the levels of e_0^o from the table provided by Zachariah and Vu (1988) in world population projection report. The table of annual increment has been developed by following the scope of possible improvements in the level of life expectancy at birth separately for males and females.

In case of Jammu and Kashmir, Jharkhand and Chhattisgarh, the average urban age-specific death rates (ASDRs) were obtained by using SRS (2004-06) to construct the life table separately for males and females so that e_0^o can be estimated. Thereafter, backward projection was made with the help of annual increment table to obtain the level of e_0^o for males and females at the base year 2001. For Uttarakhand and North Eastern Region the projected e_0^o is taken directly from the National Population Commission's report.

(iv) Sex Ratio at Birth

Sex ratio at birth for urban population is obtained from the SRS report 2000. Since the SRS report 2000 does not provide SRS estimates for the States of Jammu and Kashmir, Chhattisgarh, Delhi, Jharkhand and Uttarakhand, the sex ratio of 0-6 population for each state was taken as the proxy of sex ratio at birth. A similar approach was adopted to project the scheduled caste (SC) and scheduled tribe (ST) populations for the present study. It would have been appropriate to take sex ratio of 0-4 population, but to maintain coherence between urban population projection by the NCEUS and the National Commission on Population, sex ratio of 0-6 population was preferred. For the North Eastern Region, sex ratio at birth was observed for all the individual states and the most common figure was chosen for the projection exercise. Sex ratio at birth does not change much over the years unless external interventions are made. Therefore, the levels of Sex Ratio at Birth were kept constant over the projection period.

Ratio Method

In the absence of time services data on fertility and mortality rates in the case of small states and union territories of Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Delhi, Goa, Lakshadweep and Pondicherry the Ratio Method was used to obtain age-specific population projections. The steps involved were the following:

- (i) Project the population as on 1st April of each desired year as given by the Planning Commission as on 1st March of each desired year. This has been done using linear forward interpolation over a year. The report provides total and urban projected population as on 1st March 2002, 2007, 2012 and 2017. After projecting total and urban population as on 1st April 2002, 2007, 2012, 2017, projected urban population was subtracted from projected total population for the corresponding year to project rural population.
- (ii) Take the population of five year age group namely; 0-4, 5-9. . . 85+ by age and sex separately for the rural and urban areas from Census 1981, 1991 & 2001 for each state and union territory.
- (iii) Calculate the ratio of each age-group population to the total population by sex separately for the rural and urban areas using the last three censuses. For example, ratio of age group 0-4 population can be calculated as

$$R'(0-4) = P'(0-4) / \sum P^i$$

$$R''(0-4) = P''(0-4) / \sum P''^i$$

$$R'''(0-4) = P'''(0-4) / \sum P'''^i$$

where $R'(0-4)$, $R''(0-4)$, $R'''(0-4)$ is the ratio of the age group 0-4 population to the total population of a given area (rural/urban) at first, second and third census respectively. i denotes the i th age group.

- (i) Calculate the decadal growth rate of the ratios for each age-group by sex and residence. Using this decadal growth rate project the ratio of each age group to the total population for future years. Sometimes

these ratios do not add to unity, ideally they should. In that situation one can adjust to unity multiplying these ratios by $(1/\sum R_i)$.

- (ii) In the last step, the projected ratio for an age group was multiplied with the total projected population for the corresponding years to get the projected population for a given age group for that year. This exercise was replicated by sex and residence to get the projected population of each group for male and female within the rural and the urban areas.

Adjusting the Population Projection for 1st April

The National Commission on Population has made the population projections for the years 2002, 2007, 2012,.....and so on as of 1st March of the specific years. These were projected for 1st April of the respective years by using log linear model.

Adjusting the Projected Urban Population for Rural-Urban Migration

The differences between the projections made above and the projections made by the National Population Commission for urban areas were assumed to be the result of rural-urban population migration. It was distributed over the projected age-sex distribution of urban population by using Model Distribution of rural-urban migrations.

Age-Sex-Residence Projection of LFPR

The labour force participation rates (LFPRs) by age and sex were computed for rural and urban areas from the unit level data sets relating to 38th, 50th and 61st Rounds Employment-Unemployment surveys conducted by the Nation Sample Survey Organisation (NSSO) during the years 1983, 1993-94 and 2004-05 respectively. The rates were computed by using both the UPSS and MCWS concepts. These rates were examined for identifying trends in specific age groups or geographic areas. The ratio method was used for projecting forward the LFPRs wherever decreasing or increasing trends were noted. In other cases, smoothed averages were used for projecting the LFPRs for 2007, 2012 and 2017. The methodologies are briefly described below:

Ratio Method for Projection of LFPR

The LFPRs for each age group in the respective population segments were computed for the years 1983, 1993-94 and 2004-05. In the younger age groups and the age group 60+, there was an unmistakable declining trend in LFPRs. The average annual decreases in LFPRs were then computed for each of the periods between 1983 and 1993-94 and between 1993-94 and 2004-05 by using the following formulae:

$$\Delta_i^1 = \frac{(LFPR_i^{93-94} - LFPR_i^{83})}{10.5}$$

$$\Delta_i^2 = \frac{(LFPR_i^{04-05} - LFPR_i^{93-94})}{11}$$

Where $LFPR_{i83}$ =LFPR of ith age group in 1983

The average annual differences of both the above periods were then combined to obtain an overall average by using the formula:

$$\Delta_i^m = \frac{(\Delta_i^1 + \Delta_i^2)}{2}$$

Age specific LFPRs were then projected by using the following formulae:

$$LFPR_i^{2012} = LFPR_i^{2007} + 5\Delta_i^m$$

$$LFPR_i^{2017} = LFPR_i^{2012} + 5\Delta_i^m$$

Smoothed Average

Second order moving average of LFPRs of each age group by population segments for the years 1983, 1993-94 and 2004-05 were used as projected LFPRs of 2007. Smoothed averages of 1993-94, 2004-05 and 2007 were used as projected LFPRs for 2012 and smoothed averages of 2004-05, 2007 and 2012 were used as projected LFPRs for 2017. If the observed LFPRs for any segment in any year were found to be not acceptable, suitable modifications were made in the calculation of averages.

6

Employment Generation & its Quality: Looking through the Lens of Formality & Informality

Introduction

6.1 In the earlier three chapters, we discussed the supply side of the labour force consisting of the employed and the unemployed. In particular, we examined the size, core characteristics and the regional, gender and social dimensions of the labour force in India. We also presented its past growth trends and the composition along with the future projections.

6.2 The key issue that concerns us is the overall numbers and the quality of employment generated in the economy. As we have pointed out in chapter 2, the two aspects (viz. the number and the quality of employment), though closely related, are analytically separate issues. In this chapter we first deal with the broad dimensions of employment likely to be generated in the economy. While doing so, we also examine some crucial aspects which have a bearing on the quality of employment. These include a discussion on such aspects as underemployment and part-time employment, unemployment, employment in the formal and informal sectors, and finally, formal and informal employment.

6.3 As highlighted by us earlier, the quality of work has several dimensions including regularity of work (employment security), income/earning security, social security and decent conditions of work covering minimum wages, reasonable hours of work and work environment (space, temperature, light, hygienic conditions, etc). The quality of employment, thus, comprises a number of work related factors which have impacts on the economic, social, psychological and the state of well being of the workers.

6.4 We, then, discuss some of the constraints on improving growth and productivity among principally self-employed units in the informal sector,. The analysis and the issues highlighted provide us the basis for the evolution of an employment strategy that takes into account the low quality of work now dominating the Indian economy which also leads us to an examination of the working conditions and steps required to improve growth and productivity in the agricultural and non-agricultural informal sector enterprises.

Commission's Perspective on Employment Question

6.5 The Commission agrees with Keynes that the “whole of the unemployed is available to increase the national wealth. It is crazy to believe that we shall ruin ourselves financially by trying to find means for using it and that safety lies in continuing to maintain idleness” (Keynes 1981: 881). The Commission also endorses Keynes' view that the two most outstanding flaws of capitalism or market economy as it is sometimes called are its failure to provide full employment and the tendency to worsen economic inequality.

6.6 The dominant view today is that growth per se will take care of unemployment, underemployment and poverty and market-led growth is most efficient. Hence growth should be stimulated at any cost. The usual prescriptions for stimulating growth are to promote saving and investment through tax cuts and interest rate cut and boost aggregate demand through tax cuts, social protection expenditure and other spending. Saving promoted by favourable tax rebates would favour the rich and decrease marginal propensity to consume and hence the effective demand. Promotion of growth through incentives to private investment suffers from several infirmities such as increase of capital's share in national income, worsening of wage differentials between the centre and periphery, or what we would like to characterize here as between formal and informal sector, inflationary tendencies and financial fragility. Thus, the twin fundamental faults of capitalism and their concomitant problem of poverty would get further exacerbated than ameliorated.

6.7 The two fundamental faults of a market-led economy - the persistent reproduction of unemployment and accelerating arbitrary growth of inequality and their concomitant of poverty- thus cannot be solved via promotion of private investment. It is such an understanding of the capitalist growth that led Keynes and later the post Keynesians like Hyman Minsky (see Tcherneva 2008, Wray 2007) to advocate targeted public investment for employment creation rather than aggregate demand expansion through monetary and fiscal policy, except perhaps in the condition of depression. Although

an alternative employment and anti-poverty policy that will not have the defects of mainstream policy prescriptions may contain a mix of euthanasia of the rentier, modest tax bias and transfers in favour of the poor and maintaining a tight labour market, the focus of such policies and programmes has to be employment creation.

6.8 It is interesting to note that, starting with the General Theory, Keynes increasingly measured the demand gap in terms of labour rather than in terms of output as the post-war Keynesian orthodoxy has been advocating. In his guidance for post-war budgetary planning Keynes advised to plug ‘any output gap in terms of the number of the unemployed that needed to be hired’. It was labour demand gap that needed to be closed (Tcherneva 2008). Closing labour demand gap amounts to creating a tight labour market in the sense of the condition of almost full employment. This would help the poor as they would move from being unemployed/underemployed to employment as involuntary unemployment/underemployment declines. Evidence shows that as employment rises relative wage of the poor rises too and wage inequality declines (Wray 2007, Galbraith 1998). It stands to reason that under conditions of tight full employment the number of workers per family will go up, increasing the family income. What is needed is not a ‘trickle down’ policy but to ‘bubble up’. Raising employment to full employment levels should be the immediate priority of public policy. For this purpose spending should be directly targeted to the unemployed and the working poor, mostly in the form of public works programmes. Government should function as the employer of last resort (ELR). Public works would obviate the problems of private spending and investments.

6.9 In a country like India that is increasingly being led by the market forces, both internal and external, there is already a huge rural hinterland and informal sector. The integration of rural production and distribution, especially in agriculture, with the capitalist market, would hasten the disintegration of working peasantry and village artisans making their living off agriculture and traditional occupation much more precarious. These impoverished peasantry and artisans would then seek and get refuge in the informal sector that is co-terminous with undervalued labour, at least for the present. This would force larger

number of workers to seek subsistence, however precarious, in the informal or unorganized sector. Such growth would thus enlarge the informal sector still further. This dynamics of production and extended reproduction of the underemployed and the undervalued labour in the burgeoning informal sector is a starkly obvious phenomenon in India. So the problems of unemployment, underemployment and poverty loom too large but it can be solved if we go for a well designed project of public investment targeted directly at the unemployed and underemployed.

6.10 Accordingly, this Commission would reverse the priority of development agenda from growth first to one of employment first. According to Okun's law every 1 % fall in unemployment would raise GDP by 2.5 per cent. As per the calculations of Minsky for USA, the decreasing unemployment to 2.5 per cent from the level of 5% 'would create 3-5 times the GDP required to raise all households above the poverty line. Accordingly, the higher employment goals would more than pay for poverty removal. Skills and mobility will certainly help but only if investment is forthcoming for absorption of the surplus skilled labour. Otherwise all that would happen is the ever lengthening queue of employment seekers.

6.11 As for the self employed in agriculture and informal non-agricultural sector, it may be essential to differentiate between those who have landed there for lack of wage work and are managing to eke out more precarious a living than unskilled wage workers. They comprise almost all the workers called Own Account Enterprises/Workers and those who are hiring a few workers in their establishments – what we call here micro enterprises employing less than ten workers. The former may best be served by wage employment via public works while the latter would need wherewithal such as access to credit, technology and marketing for growth.

Projections of Employment

6.12 Having considered the supply characteristics of the labour force in the previous chapters, the next logical step is to find out the demand for this labour force. As we pointed out in Chapter 2, we come across here a major stumbling block due to the absence of a credible mechanism to monitor the trends in employment in the

Indian economy. This absence is conspicuous when we consider the availability of statistics relating to other important macro economic variables such as GDP, prices, exports and imports, foreign exchange rate and reserves, and money supply on a quarterly and/or monthly basis. In contrast, credible statistics on employment is available only on a five-yearly basis from the NSS rounds. Although the five yearly surveys are supplemented by the NSSO with annual "thin" rounds, these are not carried out every year and suffer from problems of comparability as well as long publication lags. The DGET data, as we noted earlier, also suffers from serious drawbacks of incomplete coverage, under-reporting of employment and a host of other problems (for details see, NCEUS 2008a).

6.13 In view of the above constraints, the Commission has estimated the likely generation of employment since 2004-05 and up to 2008-09 based on the realised growth in GDP and its past employment elasticity. Further, we have also projected the employment generation in the terminal years of the 11th Plan (2011-12) and also the 12th Plan (2016-17). Given the onset of the global economic crisis and its impact on India, we have worked out alternative scenarios of employment generation.

6.14 The regular series of GDP estimates are available only for the years up to 2006-07. Quick estimates for 2007-08 are also available at the time of writing this report. As per these estimates, the growth in GDP during 2006-07 was 9.88 as compared to the previous year and it was 9.01 percent during 2007-08. The growth in 2008-09 was 7.09 percent as per advance estimates.

6.15 In the context of the global economic melt down and its adverse impact on Indian economy, it is unlikely that we would achieve and sustain a growth rate of 9 percent in 2008-09 and beyond. Given that the long term growth rate in the past has been around 6 percent, a somewhat optimistic prediction would be 7 percent while a conservative lower bound of the growth rate could therefore be taken as 5 percent. As such, we have made projections assuming growth rates of 9%, 7% and 5%. Since the projections of employment based on MCWS measurement are considered by this Commission as being more relevant, we have used these in this chapter. For comparison purposes, the projections based on UPSS measurement have also been worked out and given in

the Appendix 6.2 to this chapter. While the methodology of employment projection is given in Appendix 6.1.

6.16 The main findings of the Commission with regard to the likely employment generation may be summed up as in the following three major points: (i) At 7 percent growth rate, unemployment (MCWS) will more or less remain the same even at the end of 12th Plan. A higher growth at 9 percent will almost eliminate it (but will still leave the task of providing adequate employment to the under-employed and the part-time employed). A lower growth rate of 5 percent will increase unemployment. (ii) The share of the informal sector in the total employment will continue to remain around 86 percent. (iii) There will be increasing informalisation of employment in the economy reflecting the informal nature of the additional employment generated in the formal sector. Therefore, the problem of quality of employment will continue to loom large in the Indian economy.

6.17 The projected employment at the end of Tenth Plan (2006-07), Eleventh Plan (2011-12) and Twelfth Plan (2016-17) by using different growth rates and MCWS measurement along with the estimates for 2004-05 are given in Table 6.1 and those based on UPSS measurement are given in Appendix 6.2.

6.18 As per the above projections, the employment absorption will be 60.7 million during the Eleventh Plan and 68.2 million during the Twelfth Plan, if a 9 percent growth rate in GDP is sustained in 2009-10 and beyond. The employment addition reduces to 38.3 million and 28.1 million respectively during the two Plan periods if the growth rate becomes 5 percent. The additional employment likely to be generated under different growth scenarios in different industry groups as per MCWS measure is given in Table 6.2.

Table 6.1: Employment Projections Based on MCWS Measurement

Year	GDP Growth Rate (%)		Employment Estimate/Projection (million)		
		Agriculture	Industry	Services	Total
2004-05	Actual	213.02	78.07	110.04	401.13
2006-07	Actual	219.00	86.13	121.80	426.93
2011-12	9	229.23	104.96	153.48	487.67
	7	225.37	102.00	149.00	476.36
	5	221.53	99.09	144.61	465.23
2016-17	9	240.19	126.17	189.54	555.90
	7	231.99	116.79	174.76	523.54
	5	223.95*	108.13	161.22	493.31

Source: NSSO 61st Round Survey on Employment-Unemployment. Computed and Projected by NCEUS.

Table 6.2: Additions to Employment during Eleventh & Twelfth Plan Periods

Year	GDP Growth Rate (%)		Additional Employment (million)		
		Agriculture	Industry	Services	Total
2011-12	9	10.23	18.83	31.68	60.73
	7	6.37	15.87	27.20	49.43
	5	2.53	12.96	22.81	38.29
2016-17	9	10.96	21.21	36.06	68.23
	7	6.62	14.79	25.76	47.18
	5	2.42	9.04	16.61	28.08

Source: *ibid.*

6.19 In both the Plan periods the maximum employment addition will be in services under all the growth scenarios, if the past trends are continued. The employment addition during the Eleventh Plan as per UPSS measurement will be 68.4 million if a growth rate of 9 percent is sustained beyond 2009-10 and 42.3 million if the growth rate is 5 percent. The additions during Twelfth Plan will be 77.1 million and 31.2 million with GDP growth rates of 9 percent and 5 percent respectively.

6.20 *Our first finding therefore is that a higher growth of 9 percent will lead to a tightening of the labour market by the end of 12th Plan (in terms of those who will be in the labour force in the MCWS case) and a lower rate of 7 percent will leave it more or less unchanged. In this 'business as usual' scenario unemployment rate will increase as the growth rate goes below 7 percent.*

6.21 However, we need to go beyond this conventional approach to employment generation. The main burden of the Commission's work, articulated in the earlier reports as well as in this one, is that such an approach conceals the poor quality of work. These are discussed here in terms of (a) employment security by examining employment through the lens of formality and informality as well as the various dimensions of unemployment and underemployment, (b) income security by examining wages and earnings, (c) social security, and (d) conditions of work.

Structure of Employment in the Formal & Informal Economies

6.22 One of the first tasks of this Commission has been to adopt uniform definitions of the informal, or what is called in India, the unorganised sector as well as informal employment. On the basis of an examination of the international debate on this issue as well as the practices followed in the Indian statistical system, the Commission recommended the following definitions.

- **"The informal sector** consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers".

- **"Informal workers** consist of those working in the informal sector or households, excluding regular workers with social security benefits provided by the employers and the workers in the formal sector without any employment and social security benefits provided by the employers".

6.23 Both these definitions cover the three major sectors of the economy viz., agriculture, industry and services unlike the practice in some other countries where urban self-employment or urban employment other than those in the formal sector alone are considered. A detailed *Report on Definitional and Statistical Issues Relating to the Informal Economy* has dealt in great details the rationale for these definitions, the statistical procedures used, estimated employment in the informal sector and informal economy as well as the national income originating from the informal sector. Recommendations have been made that in future the terms 'unorganised' and 'informal' be used interchangeably in India leading to the adoption of 'informal' in future.

6.24 A summary of the employment profile in India in the informal and formal sectors shows the predominance of the informal sector as well as the informal economy (employment in the informal sector and informal employment in the formal sector). (Tables 6.3 & 6.4). The percentage shares are given in Appendix 6.9. According to the estimates provided by NCEUS, the total employment in the Indian economy was 456 million in 2004-05. Of the total workforce, the informal sector accounted for 86 percent and the informal workers without any job or social security accounted for 92 percent,

6.25 In the informal sector, wage workers constituted 36 percent and the remaining 64 percent were self-employed. Agriculture sector accounted for 64 percent and non-agriculture accounted for 36 percent of the total informal sector workers. The agricultural sector consists almost entirely of informal workers (98 percent) who are mainly the self-employed (65 percent) and casual workers (35 percent). Even in the non-agriculture sector nearly 72 percent of the workers are in the informal sector. These workers are mainly the self-employed (63 percent), followed by casual workers (20 percent) and regular workers (17 percent).

Table 6.3: Estimated Number of Informal/Formal Sector Workers by Major Economic Activity in 1999-2000 & 2004-05 (million)

	1999-2000			2004-05		
	Informal Sector	Formal Sector	Total	Informal Sector	Formal Sector	Total
			Agriculture			
Informal workers	231.72	2.99	234.71	251.72	3.21	254.93
Formal workers	0.40	2.57	2.97	0.02	2.82	2.83
Total	232.12	5.55	237.67	251.74	6.03	257.76
			Industry			
Informal workers	43.75	12.13	55.88	59.42	16.71	76.14
Formal workers	0.48	8.14	8.61	0.5	8.67	9.15
Total	44.23	20.27	64.49	59.92	25.38	85.29
			Services			
Informal workers	64.24	7.93	72.17	80.59	8.99	89.6
Formal workers	0.92	21.14	22.06	0.9	22.16	23.05
Total	65.16	29.07	94.23	81.5	31.16	112.65
			Total			
Informal workers	339.71	23.04	362.76	391.73	28.91	420.67
Formal workers	1.79	31.85	33.64	1.42	33.65	35.03
Total	341.50	54.89	396.39	393.16	62.57	455.7

Source: NSSO 55th and 61st Round Survey on Employment-Unemployment. Computed.

6.26 Total employment in the economy has increased from 396 million in 1999-2000 to 456 million in 2004-05. Since there is not much change in the organized or formal employment during this period, the increase in total employment has been almost an informal kind. Although employment increased by 14 percent in the organized sector over this period, the entire increase has been mostly informal in nature, i.e., without any job or social security. This constituted what can be termed as informalisation of the formal sector.

Formal & Informal Sector Shares

6.27 The projections of employment were made for formal and informal sectors within each industry group by using average annual changes in the percentage shares of each industry and sector between 1999-2000 and 2004-05 as explained in Appendix 6.1. The distribution of total workers by formal and informal sectors on the basis of MCWS measurement are given in Table 6.5 and those based on UPSS measurement are given in Appendix 6.2. Under the three assumed growth rates scenarios what is being revealed is the constant share of employment in the informal sector in the foreseeable future. Since the

projections are based on past trends, this scenario reflects, what we would call, 'business as usual'. In other words, unless concerted efforts are adopted for promoting a more employment-friendly growth strategy in the formal sector, the dominance of the informal sector will continue to remain unchanged.

6.28 The estimates of workers by industry and sector under various GDP growth scenarios and the corresponding percentage shares based on MCWS measures are given in Appendix 6.3 and those based on UPSS measure are given in Appendix 6.4

6.29 In the case of both industry and services, the shares of informal sector employment will increase consistently over the years as per all the projections. With a 9 percent growth in GDP, the share of informal sector in employment in industry will go up from 70.24 percent in 2004-05 to 73.44 percent by the end of Eleventh Plan and further to 75.60 percent by the end of Twelfth Plan. In the case of a 5 percent growth scenario, the share will go up from 70.24 percent in 2004-05 to 72.70 percent in 2011-12 and to 73.65 percent in 2016-17. Similar trends are visible in the case of services sector also as the share

Table 6.4: Net Additions of Informal/Formal Workers by Sector & Major Economic Activity between 1999-2000 & 2004-05

	Net Additions (million)			Net Additions (%)		
	Informal Sector	Formal Sector	Total	Informal Sector	Formal Sector	Total
Agriculture						
Informal workers	20.00	0.22	20.22	33.72	0.37	34.09
Formal workers	-0.38	0.25	-0.14	-0.64	0.42	-0.24
Total	19.62	0.48	20.09	33.08	0.81	33.87
Industry						
Informal workers	15.67	4.58	20.26	26.42	7.72	34.16
Formal workers	0.02	0.53	0.54	0.03	0.89	0.91
Total	15.69	5.11	20.80	26.45	8.62	35.07
Services						
Informal workers	16.35	1.06	17.43	27.57	1.79	29.39
Formal workers	-0.02	1.02	0.99	-0.03	1.72	1.67
Total	16.34	2.09	18.42	27.55	3.52	31.06
Total						
Informal workers	52.02	5.87	57.91	87.71	9.90	97.64
Formal workers	-0.37	1.80	1.39	-0.62	3.03	2.34
Total	51.66	7.68	59.31	87.10	12.95	100.00

Source: *ibid.*

of informal sector will go up from 72.35 percent in 2004-05 to 77.33 percent by 2011-12 and to 80.44 percent by 2016-17 in a 9 percent growth scenario. In the case of a 5 percent growth scenario the share of informal sector in the services sector employment will go up from 72.35 percent in 2004-05 to 76.36 percent by the end of the Eleventh Plan and further to 78.00 percent by the end of Twelfth Plan.

6.30 This again is a significant finding. What this means is that even with a structural transformation in employment from agriculture to non-agriculture, it will principally be a movement of informal workers from agriculture to the industrial and service sectors where they would still remain as informal workers.

6.31 The above projections are not without limitations. The growth rate in worker productivity used

Table 6.5: Projected Employment (MCWS) by Formal & Informal Sectors

Year	GDP Growth Rate (%)	Employment (million)			Percentage		
		Formal Sector	Informal Sector	Total	Formal Sector	Informal Sector	Total
2004-05	Actual	58.64	342.49	401.13	14.62	85.38	100.00
2006-07	Actual	61.46	365.47	426.93	14.40	85.60	100.00
2011-12	9	67.76	419.91	487.67	13.89	86.11	100.00
	7	67.04	409.32	476.36	14.07	85.93	100.00
	5	66.32	398.91	465.23	14.26	85.74	100.00
2016-17	9	73.02	482.87	555.90	13.14	86.86	100.00
	7	71.03	452.51	523.54	13.57	86.43	100.00
	5	69.11	424.20	493.31	14.01	85.99	100.00

Source: NSSO 61st Round Survey on Employment-Unemployment. Computed and Projected by NCEUS.

for adjusting GDP growth rates over the years are based on the estimates for the years 1993-94 and 2004-05. It is known that labour productivity improved substantially during this period and these growth rates are used for discounting the GDP estimates due to productivity growth. As per NCEUS estimates, the overall rate of growth in productivity was 4.34 percent per annum which is close to 4.35 percent estimated by the Planning Commission. The elasticities themselves are estimated based on the relationships observed during two points of time.

6.32 Planning Commission also used a similar methodology for projecting employment generation during 11th and 12th Plans. The Planning Commission, however, used Current Daily Status (CDS) measurement for projecting employment generation. As we already stated in Chapter 3, CDS measure indicates the average number of persons employed on any particular day and ignores the identity of the individual worker. It also does not differentiate between those employed for 0.5 days and 7 days in a week. The comparative projections of labour force and employment by Planning Commission and NCEUS are given in Table 6.6.

6.33 According to the Planning Commission's projections employment absorption during Eleventh Plan will be 58.07 million as compared to 60.74 million as per NCEUS projections. The corresponding projections for the Twelfth Plan are 57.89 million and 68.2 million respectively. All these projections are based on a GDP growth rate of 9 percent till the end of Twelfth Plan.

6.34 As per Planning Commission, the annual growth rate of labour productivity during the period 2006-07 to 2016-17 is estimated at 7.82 percent (see page 83, Annexure 4.2, volume-1), though as per NCEUS projections the overall growth in labour productivity is unlikely to be accelerated except for a marginal change because of sectoral shifts in GDP contributions. The productivity growth rate between 2006-07 and 2016-17 as per NCEUS projections will be 7.37 percent in the formal agricultural sector and 1.94 percent in informal agricultural sector. In the case of industry the productivity growth rate will be 5.03 percent in the formal sector and 2.48 percent in the informal sector during the same period. The rates of productivity growth in the services sector will be 6.64 percent and 2.41 percent in the formal and informal sectors respectively.

Table 6.6: Summary of Labour Supply, Absorption & Unemployment (million), 2006-17

	Planning Commission (based on CDS)			NCEUS (based on MCWS)		
	2006-07	2011-12	2016-17	2006-07	2011-12	2016-17
	Based on 9 percent growth in GDP					
Labour Force	438.95	483.66	524.06	450.32	501.17	550.53
Employment	402.24	460.31	518.20	426.93	487.67	555.90
Unemployment	36.71	23.35	5.86	23.39	13.50	-5.37
Unemployment rate (%)	8.36	4.83	1.12	5.19	2.69	-0.97
	Based on 7 percent growth in GDP					
Labour Force				450.32	501.17	550.53
Employment				426.93	476.36	523.54
Unemployment				23.39	24.81	26.99
Unemployment rate (%)				5.19	4.95	4.90
	Based on 5 percent growth in GDP					
Labour Force				450.32	501.17	550.53
Employment				426.93	465.23	493.31
Unemployment				23.39	35.94	57.22
Unemployment rate (%)				5.19	7.17	10.39

Source: *ibid.*

Shares of Formal & Informal Workers

6.35 The shares of informal workers in the informal and formal sectors were projected on the basis of average annual changes between 1999-2000 and 2004-05 in the relative shares of each group as explained in the Appendix 6.1. The distribution of total workers by formal and informal work status on the basis of MCWS measurement are given in Table 6.7 and those based on UPSS measurement are given in Appendix 6.5. The share of informal workers as per MCWS measurement was 91.83 percent in 2004-05. It increased to 92.07 percent in 2006-07. It would further increase to 92.92 percent by the end of the Eleventh Plan in the high growth scenario and 93.90 percent by the end of the Twelfth Plan. A low GDP growth rate of 5 percent would increase the share of informal workers to 92.73 percent by 2011-12 and 93.46 percent by 2016-17. This implies that there will be increasing informalisation of employment.

6.36 The estimates of workers by industry and status of work and the percentage shares based on MCWS measure are given in Appendix 6.6 and those based on UPSS measure are given in Appendix 6.7. The increase in the shares of informal workers is significantly large in the case of both industry and services. While it increases from 89.64 percent in 2004-05 to 94.95 percent by 2016-17 in the case of industry, the change during this period is from 79.68 percent to 86.77 percent in the case of services if the GDP growth of 9 percent is maintained. The pattern of increase does not change much even with

a 5 percent growth in GDP. This again confirms the increasing informalisation of formal sector workers.

6.37 *The fourth and a more significant finding is that the economy will experience a greater degree of informalisation of employment that will increase the already high share of informal workers (as opposed to workers in the informal sector) from 91.8 percent to 93.9 percent by 2016-17. This is because the incremental employment in the formal sector will mostly be of an informal kind in the 'business as usual' scenario.*

Unemployment

6.38 According to the Commission's measurement based on MCWS, the unemployed persons (Table 6.8) relate to those who will be unemployed for a major part of the time in the labour force. Appendix 6.8 gives the projections based on UPSS. At a higher growth rate of the economy, the unemployment should have come down by 2008-09. However, given the emergence of a slow down in the economy both the absolute magnitude and the rate of unemployment will increase by 2017 if the growth rate goes down below 7 percent. In fact, with a 5 percent growth rate, the unemployment rate will almost double by the end of the 12th Plan and will increase by 40 percent by the end of the 11th Plan i.e. 2012.

Part Time Workers & the Underemployed

6.39 As we explained in Chapter 2, those who are not in the labour force for 3.5 days or more in the

Table 6.7: Projected Employment (MCWS) by Formal & Informal Work Status

Year	GDP Growth Rate (%)	Employment (million)			Percentage Share		
		Formal	Informal	Total	Formal	Informal	Total
2004-05	Actual	32.79	368.35	401.13	8.17	91.83	100.00
2006-07	Actual	33.87	393.06	426.93	7.93	92.07	100.00
2011-12	9	34.54	453.13	487.67	7.08	92.92	100.00
	7	34.18	442.18	476.36	7.18	92.82	100.00
	5	33.83	431.40	465.23	7.27	92.73	100.00
2016-17	9	33.93	521.96	555.90	6.10	93.90	100.00
	7	33.08	490.46	523.54	6.32	93.68	100.00
	5	32.26	461.05	493.31	6.54	93.46	100.00

Source: *ibid.*

Table 6.8: MCWS Estimates/Projections of Labour Force, Employment & Unemployment

Item	GDP Growth Rate (%)	Million Number			
		2004-05	2006-07	2011-12	2016-17
Labour Force		429.90	450.32	501.17	550.53
Employment	9	401.13	426.93	487.67	555.90
	7	401.13	426.93	476.36	523.54
	5	401.13	426.93	465.23	493.31
Unemployed	9	28.77	23.39	13.50	-5.37
	7	28.77	23.39	24.81	26.99
	5	28.77	23.39	35.94	57.22
Unemployment Rate	9	6.69	5.19	2.69	-0.97
	7	6.69	5.19	4.95	4.90
	5	6.69	5.19	7.17	10.39

Source: *ibid.*

reference week are not included in the MCWS labour force and work force. However, there are persons who have worked for at least 0.5 days but not over 3.0 days in the week. Such workers are categorized as part time workers. Those among them who were not available for work even for 0.5 day during rest of the week are categorized as *strictly part time workers* and those available for work for at least 0.5 days during the week are classified as *underemployed*. These part-time workers are marginal or subsidiary workers and given work opportunities, it is most likely that they would be prepared to avail them. Any employment strategy, therefore, must also cater to the employment needs of these workers. As per the projections of the work force by MCWS and CWS, the projected *strictly part time workers* and *underemployed* in different growth scenarios are given in Table 6.9.

6.40 In the case of a 9 percent GDP growth scenario, the Strictly Part Time Workers will increase from 13.1 million in 2004-05 to 17.6 million in 2016-17. Underemployed in the mean time will increase from 9.6 million to 17.3 million. The underemployed persons will become 15.3 million by 2016-17 if the GDP growth rate is reduced to 5 percent. The existence of such a large number of part-time/underemployed workers is a challenge to policy, especially as a large proportion of them happens to be women. Juxtaposing these figures with those of employment generation given in Table 6.1, we can see that even under the high growth scenario, sufficient employment opportunities will not be generated to address the employment needs of the large numbers of part-time or underemployed workers. Special policies/programmes may be required to cater to them.

Table 6.9: Projections of Strictly Part Time Workers & the Under-Employed

Item	GDP Growth Rate (%)	Number (million)			
		2004-05	2006-07	2011-12	2016-17
Strictly Part Time Workers	9	13.06	13.83	15.63	17.62
	7	13.06	13.83	15.26	16.59
	6	13.06	13.83	14.91	15.63
Under-employed	9	9.57	10.70	13.69	17.25
	7	9.57	10.70	13.37	16.25
	6	9.57	10.70	13.06	15.31

Source: *ibid.*

Socio-economic Profile of Unorganized Workers

6.41 The Commission's earlier report on *Conditions of Work and Promotion of Livelihoods in the Unorganised Sector* (NCEUS 2007a) has dealt with in detail the size, composition and characteristics of the informal sector as well as the informal economy in India. Here we give a succinct summary of those findings with a view to provide a background to the subsequent discussions on the employment strategy with particular reference to the problems of the wage employed and the self employed.

6.42 Limited access to human and physical capital among workers acts as a major constraint on access to employment, quality of employment or growth of self-employment activities. Analysis of data on land ownership shows that a substantial proportion of wage workers in agriculture (77 percent) and all workers in non-agriculture (75 percent) are either landless or land-poor. Self-employed in agriculture have better access to land ownership. Landlessness is the highest among Hindu SCs and Muslim OBC and the least among Hindu upper castes. This has implications for seeking any kind of work in the non-agricultural labour market as well as securing a living wage.

6.43 In the present era, education is important to obtain gainful, productive and remunerative employment. The educational profile of workers reveal that the average years of education received by the workers in the unorganized sector (6.6 years) is about 3.5 years less than that received by workers in the organized sector (10.1 years). The gender difference in average years of education is striking – women received fewer years of schooling than men in all segments of the workforce. Casual workers are at the bottom of the educational ladder. In fact, rural casual non-agricultural workers and rural agricultural workers have the lowest level of education and literacy.

6.44 In addition to access to education and land ownership, a third dimension of vulnerability is introduced by the socio-religious groups to which the workers belong. Among the social groups, STs have the lowest average years of schooling followed by Muslim OBC, Hindu SCs and Hindu OBC in that order. Among all

the groups the unorganized sector workers have lower years of schooling than their organized sector counterparts. The self-employed workers have higher mean years of schooling compared to the casual workers, though lower than that of regular workers among men and women in rural and urban areas. Casual women labour among the ST and SC communities in rural and urban areas and women among the rural and urban Muslims have the lowest mean years of schooling. At the other extreme, upper caste Hindus have much higher educational attainment than all other social groups.

6.45 While 29 percent of the male workers were able to access organized sector jobs, only about 27 percent of women were able to do so. However, there are striking religious differences. While upper caste Hindu men (38 percent) and women (37 percent) were most likely to get organized sector jobs, Muslim OBC men (12 percent) and women (13 percent) were least likely to do so. Muslim Others also fare worse in this respect. The highest proportion of casual workers in the non-agricultural unorganized sector is in the case of ST men and women followed by the SCs. The upper caste Hindus are least likely to be casual workers.

6.46 Muslims are overwhelmingly concentrated in the unorganized sector and in self-employed activities to meet their livelihood needs. The upper caste Hindus fare the best – they have better access to quality employment and productive self-employed activities due to their better access to education and land ownership. This is further reflected by comparing the poverty ratios across the groups. Poverty ratios are the highest among the casual workers in the unorganized sector both in rural and urban areas. However, it is important to note that SCs and STs have a higher incidence of poverty than the casual workers both in rural and urban areas. In other words, social status seems to have an overbearing influence on poverty compared to the work status. Casual work status and SC/ST status emerge as a deadly combination with the incidence of poverty. It has important implications for the quality of employment as well.

Wages & Earnings

6.47 Informal workers earn their income either through wages and/or through earnings arising from self-

employment. Several studies have pointed out the uncertainty, irregularity and inability to secure even minimum wages for the wage employed and the inadequacy of earnings for meeting the basic household needs of the majority of the self-employed, if not all.

6.48 The detailed review of wages and earnings carried out by us in NCEUS (2007a) has brought the many characteristics of wage payment systems for the unorganised workers. Wages in the unorganized sector are arbitrarily fixed, often without regard to the minimum wage legislations, which adversely affect the income of the wage workers in general, and women workers in particular. Overtime rates were rarely found to be observed. Even for those engaged over long periods, no allowance was made for weekly holidays or other leave entitlements. In most cases, informal workers were denied provident fund and other social security benefits despite the legal entitlement to the same. Overall, the benefits of the provisions of the laws relating to wages and provident fund did not reach the construction workers and contract labour. Gender discrimination was well entrenched and there were numerous cases where women workers were paid much less than the men for similar work. Besides women's work was subject to stereo-typing and segmentation and they were more likely to predominate in the unskilled and low paid jobs. Although both piece-rated wages and time-rated wages are prevalent in the unorganized sector, males are more likely to be in time-rated jobs. In putting-out (sub-contract) jobs, delays in payments and arbitrary deductions were rampant. On the whole, these factors indicate the kind of vulnerability and discrimination the wage workers in general and women in particular face. All these lead to lower earnings and extremely deplorable conditions of the working poor in the informal sector.

6.49 In India, the Minimum Wages Act 1948 fixes the minimum wages payable to any person who is in an employment specified in the schedule. Most studies that have examined the application of minimum wage legislation to workers in the unorganized sector show that the Act has not been used to protect the interests of the poor and the unorganized sector workers. Other limitations of the Act included infrequent revisions and inadequate cost of living adjustment leading to a fall in

the real minimum wage over time. Other constraints of ineffectiveness of minimum wages include the absence of criteria for fixing the minimum wages, inadequate sanctions and cumbersome penalties. There are vast differences in the minimum wages set for different employments within a state and across the states.

6.50 Based on the recommendations of the Central Advisory Board, the Central Government recommends a National Minimum Wage and all states have been requested to ensure fixation of wages in all the scheduled employments at a rate not below the recommended national minimum wage. This was fixed at Rs. 66 per day with effect from 1-02-2004. NCEUS, by using the "basic minimum wages" suggested by the National Commission on Rural Labour (1991), arrived at a 'notional minimum wage' of Rs. 49 in rural areas and Rs. 67 in urban areas at 2004-05 prices. The NCEUS has used these two sets of minimum wages as benchmarks to compare the actual average daily wages per worker.

6.51 The share of wage workers securing wages below the National Minimum Wage norm is significantly high across industries, clearly indicating that the minimum wage regulations are hardly being followed and applied in industries. In fact, 85 percent of all casual workers in rural areas and 57 percent of them in urban areas get wages below the minimum wages. The difference in the proportion of workers below the minimum wage norm in rural areas and urban areas is more marked for the non-agricultural workers, with urban workers being considerably worse-off. Among industry groups the proportion of men below the minimum wage is higher in trade, where as among women it is highest in manufacturing in rural and urban areas.

6.52 As mentioned earlier, casual workers have concentrated in certain manufacturing industries. In rural areas the lowest average daily wage was received by workers in the tobacco industry (mainly women). About 92 percent of them received wages below the national minimum wage norm. In contrast, workers in the wood and wood product industries (mainly men) had the highest average daily wage and less than 40 percent of them had wages below the minimum wage.

6.53 Among the states, Madhya Pradesh and Orissa had the highest proportion of casual non-agricultural workers receiving wages below the minimum wage norms in both rural and urban areas. In contrast, Kerala and Punjab recorded the least proportion of casual workers receiving wages below the norms.

6.54 The casual agricultural workers in rural areas were worse-off compared to non-agricultural workers. The share of the regular unorganized workers in the organized sector who received wages below the minimum wage was slightly better than the other categories of workers.

Conditions of Work of Agricultural Wage Workers

6.55 As shown in our Conditions of Work report, agricultural labourers are characterised by low levels of living, high insecurity and poverty levels. With no physical and human capital assets, they largely take up wage work in manual agricultural activities. The socially backward like the scheduled castes and scheduled tribe agricultural workers are the most predominant within this group.

6.56 Overall wage levels of agricultural labourers have been very low and further the wage rates have registered a low growth rate particularly through the nineties. Taking a wage of Rs.45 as the cut-off wage for all states the Working Conditions Report has noted that 76 per cent got wage rate below this cut-off rate in 1999-00. However in Kerala, Haryana and Punjab a majority had a wage rate above Rs.45.

6.57 The employment days for agricultural wage labourers are characterised by great deal of uncertainty because of seasonality of operations. The pattern of employment days indicates that there are ups and downs depending on the agricultural performance of the year.

Conditions of Work of Wage Workers in Non-agricultural Sector

6.58 As of 2004-05 there are about 53 million wage workers in the unorganized non-agricultural sector and 77 million unorganized or informal workers who include

the informal wage workers in the organized sector. Broadly, the wage workers have concentrated in a small number of activity groups. Among men, more than 90 percent of the wage workers are engaged either in some kind of manufacturing, construction, trading or transport activities. Among women, more than 90 percent of wage workers are engaged in either some kind of manufacturing, construction activities or just domestic services.

6.59 Casual workers constituted about one fifth of the workers in the unorganized non-agricultural sector. Among the casual workers, more than half were engaged in the construction sector, followed by one fifth in the manufacturing sector. More men than women workers are engaged in construction (56 percent and 39 percent respectively). In contrast, more women than men workers are engaged in the manufacturing (29 percent and 17 percent respectively). Within the manufacturing sector, textile industry was the largest employer of casual workers, more so for women (37 percent for women and 19 percent for men). Nearly one-fourth of both the men and women workers in the manufacturing sector are engaged in other non-metallic mineral products. Other manufacturing industries (e.g., motor vehicles, auto components, machinery etc.) employs about one-fourth of the men casual workers in the manufacturing sector.

6.60 Regular workers constituted about 17 percent of the non-agricultural workers in the unorganized sector. Among men regular workers, manufacturing, trade and transport, storage etc. are the major sources of employment. Among the women regular workers, as high as 54 percent were hired by private households mainly in domestic services, and 13 percent each by education, health and manufacturing. Among the regular workers within the manufacturing sector, almost half of the men are concentrated in other manufacturing industries (e.g., motor vehicle, auto components, machinery etc), and women are concentrated in other manufacturing, textile products, and tobacco product industries. As regards regular unorganized workers in the organized sector, majority of such male workers are in the manufacturing sector and the women workers are in the service sector, again in education, health etc.

Contractual Work Status

6.61 Varying forms of work contracts involve differences in the legal and social protection of workers. In 2004-05, nearly all the casual workers and a vast majority (92 percent) of regular workers in the unorganized sector in India did not have a written work contract. In contrast, about half of all the wage workers and about four-fifths of the unorganized regular workers in the organized sector had written contracts. Studies show that the contractual status of informal sector workers changes very little with duration of employment with an overwhelming majority continuing to be of temporary status. A few studies have found that written contracts were issued to very few skilled workers, mostly men.

6.62 How employment is obtained by the workers in the unorganized sector is a crucial determinant of employment quality, job choices and job mobility. The Labour Bureau surveys show that a large part of the unorganized employment in the industries such as textiles, garments, power looms, agarbati and toys and dolls, is obtained at the factory gate (Labour Bureau 1998). Workers without access to caste or community networks have to shift from one 'factory gate' to another till they get a job. Another, perhaps more important, route to getting job is through a family, caste and community based networks. The third route is through labour contractors or 'Jamadars'. Contract labour was found in large numbers in certain activities in the unorganized sector such as in stone quarrying, beedi rolling, rice shelling, brick-kilns and construction. In construction, an estimated 10.7 million workers, accounting for 83 percent of all construction workers in India in that year, were employed through contractors and did not receive minimum employment protection and benefits whatsoever. A major drawback of the contract labour system is that typically the working conditions are poor, workers do not receive wages in full measure and neither the contractor nor the principal employer takes responsibility for the workers' welfare. Similarly another group who also face unfavourable employment contracts are the so called 'temporary workers'. According to the Labour Bureau surveys, temporary workers dominated employment in rice shelling, match industry, marine fishing, woollen carpet manufacture and toy and doll

industry accounting for over half the workforce in these industries (Labour Bureau 1992c).

Hours of Work

6.63 Long hours of work in the unorganized sector beyond the labour and regulatory norms in India have been highlighted by the NCEUS Report on Working Conditions. There did not seem to be much difference in the hours of work by gender, implying that most of the men as well as women are exposed to long hours of work in factory jobs. In handlooms, work is organized in such a way that wages were based on a 12-15 hours/day. In Dharavi's leather accessories manufacture, it is common to work for 15-17 hours a day, including 2-3 hours breaks for lunch and dinner. Similar is the situation of workers in the fireworks in Sivakasi where workers normally start work at 6 am and continue till late evening. These workers are concentrated in fireworks, match making, brassware, glass bangle manufacture, diamond cutting and power looms. Contrary to stipulated norms of 48 hours a week, work by coolies, porters, workers in fishing industries work over very long spread over, lasting up to 52 hours as in the case of marine fishing industry.

6.64 A study of the construction industry found that only the males are registered as workers in the muster roll of the employer and the rest of the family members including women remain invisible to statistics, policy and social security provisions. In this study, working hours of all workers are about 12-14 hours a day. This study also demonstrates the double burden of work by women due to time spent on both market and non-market work.

Stipulations of Leave & Holidays

6.65 Another indicator of the quality of employment is the eligibility for paid leave. In 2004-05, less than 10 percent of the wage workers in the unorganized sector were entitled to paid leave. As compared to a negligible 1 percent of casual workers in the unorganized sector who enjoyed paid leave, regular workers in the unorganized sector are relatively better-off with 18 percent enjoying paid leave. At the other extreme, about three-fifths of the wage workers in the organized sector were eligible for paid leave. Only about 15 percent and 27 percent of the unorganized wage workers and unorganized

regular workers respectively in the organized sector were eligible for paid leave. This shows again that the informalisation process has generated a large segment of workers within the organized sector without minimum conditions of work.

6.66 Regulations provide for one day off from work per week with wages and oblige employers to provide workers with paid off on the occasion of certain holidays, including national holidays. Most workers in the unorganized sector do not enjoy such benefits. In our review, based on Labour Bureau (Labour Bureau 1979, 1995a) and other studies workers, did not get a weekly holiday and were also denied holidays with wages for festivals.

Physical Environment

6.67 The physical environment at work place is an important aspect of worker's well-being. Better physical conditions such as space, lighting, temperature, hygienic facilities etc. are critical for enhancing the productivity of workers as well as providing some basic comforts and healthy living at the work place.

6.68 Studies on physical environment at work place in the unorganized sectors reveal the poor physical conditions. Cramped working space is noted in a number of studies on the informal sector. Although adequate ventilation is very important in certain industries such as chemicals, metallurgy, leather tanning, pottery, brick-kilns, meat and fish processing, and manufacture of matches and fireworks, Labour Bureau surveys and other researchers have noted poor ventilation in work place of such industries. Problems of poor ventilation and lighting are exacerbated during night shifts which also put additional burden on workers in terms of finding transport to return home, especially for women workers.

6.69 Adequate lighting/illumination is a necessary condition to enhance the quality of work, both safety of the workers and quality in the production process. This is specifically so in some specific industries where the types of work involve adequate lighting, such as cutting operations done with the use of a sharp knife, weaving of carpets with intricate designs. In the unorganized sector, where a large part of the work is done on piece rates and

the workers end up paying penalty for mistakes, errors and bad quality of work due to inadequate illumination is a double punishment. Studies have found that either lighting is inadequate or insufficient in a range of industries including carpet weaving workshops, lock making, and in the diamond cutting industry.

6.70 Other important aspects of physical environment at the work place are the provision of facilities such as crèche and shelter for rest or recreation of workers. However, no study has found such facilities at the work place in the unorganized sector with the exception of beedi making and cashew nut processing in Kerala where workers have access to crèche and canteen. Rudimentary resting place was provided to some workers in stone quarrying and construction industry. However, the quality of these facilities was found to be poor (Labour Bureau 1979). The Labour Bureau surveys in several industries in the unorganized sector over the years have found that only about 3.5 percent of the workers in beedi making and between 2 and 3 percent of the workers in the power looms sector were provided with housing (Labour Bureau 1992b).

6.71 Housing and sanitation conditions are precarious in most of the industries in the unorganized sector. A large number of unorganized sector activities, especially in urban areas, are in clusters. Large numbers of workers in these enterprises also live in the surroundings of the cluster, where the sanitation facilities are extremely limited. Open sewage drainage systems, overflowing drains, flooding during monsoon etc. lead to unhygienic living and working conditions of workers. Due to limited access to toilet facilities in these slums, workers mostly use open space within the slum or public toilet facilities. For instance, in the leather accessories manufacture in Dharavi only about one percent of the enterprises and workers had access to toilet facilities within the premises. Toilet and wash facilities at the work site are also scarce in most of the industries in the unorganized sector. This is also true in industries employing large numbers of women.

Occupational Health & Hazardous Work

6.72 It is well-known that certain unorganized sector industries such as underground mines, ship breaking, fire works and match industry were dangerous and full of

hazards. The workers in underground mines were at the risk of losing limbs or lives due to fire, flooding and collapse of roofs, emission of toxic gases and the failure of ventilation systems in the underground mines (SNCL 2002). Loss of limbs and amputations occur most often when workers operate unguarded or inadequately safeguarded machines. Lack of awareness about safe work practices due to inadequate training is also not uncommon.

6.73 The workers sustain injuries in many industries in the unorganized sector. A study in the slaughter and meat processing industry in Delhi found that workers including child workers sustained high levels of injuries. Dharmalingam (1995) found that the brick-kiln workers in Tamil Nadu faced hazardous working conditions leading to cases of loss of limbs, particularly foot being cut by spades. To prevent work-related injuries, occupational safety measures and equipments are either absent in most of the hazardous unorganized sector industries or such facilities are non-functional when present. In addition, most such industries do not have the provision of official compensation for work-related injuries.

6.74 Many studies have reported occupational illness and diseases among workers in many industries in the unorganized sector. These include underground mines (high incidence of lung diseases such as tuberculosis and pneumonia), glass bangle industry (respiratory disorders and tuberculosis), textiles and carpet weaving industry (skin-related diseases); fish processing units in the export zones (falls, injuries, strained muscles, hernia, slip discs, permanent damage to the uterus of women workers, coughs and shivering bouts; hand block printing textiles clusters in Jaipur (skin-related allergy and hardened/dead/numb skin); Brick-kiln industry (respiratory diseases, body ache and exhaustion among women and children) .

Socially Objectionable or Extreme Conditions of Work

6.75 In India, there is a segment of disadvantaged workers who perhaps constitute the bottom layer of the working class. These are the migrant workers, particularly the seasonal migrants, child labourers and bonded labourers. The number of such workers represents the poor quality of employment because the works they are

engaged in are considered socially objectionable. These workers are highly vulnerable on account of their lack of physical assets and human capabilities coupled with their initial conditions of extreme poverty and low social status. This results in their low bargaining power in the labour market that further reinforces their already vulnerable state and traps them into a vicious circle of poverty and deprivation. The conditions of work are often miserable, hours of work long, meagre wages, non-existent work security and a greater exploitation.

Migrant Workers

6.76 Lacking any skills and assets, migrant workers often tend to end up as farm labourers in rural areas and construction workers or rickshaw-pullers or street vendors in urban areas. Women from poor rural households often become domestic servants in urban areas. Such labourers in most cases are sourced by labour brokers/contractors. The migrant workers are largely in the unorganized sector, which is why they face exploitation at the hands of employers and middlemen who help them get employment in destinations away from their places of origin.

6.77 Temporary and short duration migrants need special attention because they face instability in employment and are extremely poor. They are engaged in agricultural sector, seasonal industries or in the urban sector as the self-employed. Some estimates suggest that the total number of seasonal migrants in India could be in the range of 30 million.

6.78 Migrant workers face adverse working conditions such as longer working hours, social isolation, lower wages and inadequate access to basic amenities. Migrant wage workers receive lower wages because of which they are being preferred by the employers as compared to their local counterparts. Statutory minimum wage rates are rarely observed. Wages for women migrant workers are lower than the male migrant workers. For instance, in the construction industry they are treated as assistants to their male counterparts and given unskilled manual worker's wages. Further, payments are irregular and sometimes, are not made in time. Piece rates are prevalent as it provides greater flexibility to the employers.

6.79 Migrant workers, in most cases, stay at the work site in temporary huts and shanties. Often the employers expect them to be available for work round the clock. Working hours are not fixed. Women migrant workers are even more insecure because of the odd working hours. They face exploitation in terms of adverse working conditions, lower wages and, at times, even sexual harassment.

6.80 Not only that the migrant workers face adverse working conditions, their living conditions are also often deplorable. They live in temporary hutments located at the work site as in the construction industry, or in slums, or even on pavements, stations and parks in the cities. There is no safe drinking water or hygienic sanitation. Temporary migrants are denied ration cards and hence their entitlement to the public distribution system. Over the years there has been massive poverty-induced migration of illiterate and unskilled workers into mega cities such as Mumbai, Kolkata, and Chennai, Delhi and Bangalore leading to frequent breakdowns of essential urban services like water, electricity, sewerage and transport.

6.81 The long working hours in hazardous environments, harsh working and living conditions increase health and occupational hazards of the migrant workers and their families. Due to their temporary status, workers, have limited or no access to public health and education facilities. As a consequence, their children's educational prospects all but vanish.

6.82 In addition to lower wages, manual unskilled jobs and sexual harassment, women migrant workers face other difficulties such as lack of maternity benefits, lack of childcare facilities and the additional burden of domestic chores and child rearing. All these lead to grater insecurity for women migrant workers as compared to their male counterparts.

Child Labourers

6.83 The problem of child labourers is more complex and is intertwined with the twin issues of poverty and lack of access to quality school education. It is also not rare to find situations when a child worker is a migrant and bonded to the employer. The susceptibility of such

child workers to exploitation is the greatest.

6.84 According to NSSO results, there has been a decline in the incidence of child labour in India. For instance, the total number of child workers declined from 13.3 million in 1993-94 to 8.6 million in 2004-05. They constituted about 6.2 percent of children in the age group 5-14 years in 1993-94 and 3.4 percent in 2004-05. The majority of the child labourers are in the rural areas (7 million) where about two-thirds of the children were engaged in family enterprises as helpers and the remaining one-third were engaged as paid workers. In the urban areas, on the other hand, nearly half of the child labourers were wage workers. Two-thirds of the child workers were engaged in agriculture and about 17 percent were engaged in manufacturing. More girls than boys were engaged in agriculture and manufacturing. One-tenth of the boys were engaged in trade as compared to just 2 percent of girls.

6.85 About 11 percent of girl child workers are engaged in domestic duties in rural areas, collect water and firewood and prepare cow dung cakes for fuel. Other tasks performed by girl child workers in rural areas are husking paddy, grinding food grains and sewing. All these activities may keep the girl out of the school as well. Being kept out of school and helping the mother in work and domestic duties, would reduce her capacity to compete in the labour market in future. Her future is, thus, in jeopardy even from the age of 10 or sometimes even below. This is particularly true of the girls in rural areas. It is possible that majority of these girls also belong to the poor households and are being used by their families to maintain the subsistence incomes.

6.86 Given the rate of reduction in its incidence, it is quite possible that by 2015, child labour will decline to a negligible percentage of less than one or so. However, if we define child deprivation as the out-of-school children that comprise both workers and non-workers, the potential child labour pool still remains very high at 45.2 million (18 percent of children) in 2004-05. They constitute nearly 15 percent of boys and 21 percent of girls. While child labour is a major problem only in 9 states, child deprivation is more widespread in the country except in Kerala (3 percent), Tamil Nadu (5 per cent) and Himachal Pradesh (9 percent). Therefore, a

progressive improvement in school enrolment will become the key to reducing child deprivation in the sense of children being out of the school.

6.87 The association between socio-economic deprivation and child labour has been long established in India and other countries. The 2004-05 NSSO results clearly suggest a negative association between per capita household expenditure and child labour/deprivation and a positive association between caste/religious status and child labour and deprivation. For instance, households with lowest per capita expenditure have the highest incidence of child labour and child deprivation. STs, followed by Muslims, SCs and Hindu OBCs have the higher incidence of child labour and child deprivation. The inherent problem, thus, lies not in dealing with child labour alone, but with the entire gamut of out-of-school children, which is a manifestation of not merely poverty or economic deprivation but also the extent and nature of educational facilities and its easy access to the socially weaker sections.

6.88 As regards conditions of work of child workers, they worked for more than 8 hours a day in various industries. School going children attended school for 6 hours and then spent another 4-6 hours in work. In fact, child workers worked as much as and as long as adult workers and received no wages (as apprentice) or a fraction of the adult wage. They faced inhuman and even hazardous working conditions. Child workers in the unorganized sector are, of course, the worst affected. They are most vulnerable as they do not have the bargaining power to demand their rights. The policy response, therefore, should be to eliminate all types of child labour in agriculture as well as in the unorganized non-agricultural sector enterprises, to focus on child-centred primary education of good quality, and to expand employment and livelihood opportunities for adult workers.

Bonded Labourers

6.89 Bonded labourers have no freedom to change their employment. Sometimes, the disadvantages of migration and bondage interact as in the case of migrant bonded labourers in construction sites, quarries and brick-kilns.

6.90 Bonded labour refers to a long-term relationship between the employee and the employer, cemented through a loan, by custom or by force, which denies the employee various freedoms including freedom to choose his or her employer, to enter into a fresh contract with the same employer or to negotiate the terms and conditions of her/his contract. The bondage continues even to the next generation. Firm estimates of labour bondage are not available but the extent of bondage can be gauged from the fact that in a number of industries, a large proportion of workers suffer from “unfreedom” and are paid wages lower than the minimum wage (found by the Supreme Court as a key identifying characteristic of bondage). An overwhelming proportion (nearly 87 percent according a Ministry of Labour survey) of the bonded labourers belong to scheduled castes (SCs) and scheduled tribes (STs).

6.91 Bonded labourers are found mostly in agriculture but are increasingly predominant in several activities in the unorganized sector. Among the sub sectors, the incidence of bondage is probably the highest in quarries and open mines. Brick-kilns are another industry, which reportedly continues to have a sizeable incidence of bonded labour. Among industries for which recent evidence has accumulated are power looms, handlooms, rice mills, sericulture and silk weaving, woollen carpets, fish processing, and construction. Bonded labour, including children, has also been identified in the case of circus industry and domestic work. Incidence of bonded labour is also found to be relatively high among migrant workers, forest tribal populations and child workers. Overall, bonded labourers are from the lowest segment of migrant labourers and child labourers.

6.92 Due to social change, social movement and state interventions, the un-free status of labour in traditional agriculture and in some other sectors has changed positively. However, the incidence of bonded labour still remains high in some segments of the unorganized industry. Although official statistics have tended to underplay the incidence of bonded labour, it is a huge problem.

6.93 On the whole, migrant workers, child labourers and bonded labourers constitute a segment of the workers

in the unorganized sectors who are the most deprived and exploited. Given the fact that most of the bonded labourers belong to the SC and ST communities, this has the social dimension of vulnerability as well with poor quality employment.

Self-employed Workers in Non-agriculture

6.94 The self-employed accounts for the majority of the work force (57 percent in 2004-05) followed by the casual workers (28 percent) and regular workers (15 percent). When we consider the unorganized sector as a whole, the share of self-employed is even much higher. There are 166 million and 92 million self-employed in agriculture and non-agriculture respectively. In agriculture, the self-employed are the various categories of marginal, small and big farmers. In non-agriculture, majority of the self-employed are own account workers i.e., working as tiny enterprises often with the help of family labour or with one or two workers, although women “helpers” or “unpaid workers” predominate. The condition of the self-employed in agriculture, especially the marginal and small farmers, is discussed by us later in this report (Chapter 10).

6.95 The characteristics of informal enterprises have been analysed by us in detail in our Report on Conditions of Work. In 1999-2000, Own Account Enterprises (OAEs) constituted about 87 percent of the informal enterprises with 73 percent of all workers engaged in them. The rural area has more concentration of both OAEs and workers engaged in them. On the contrary, there is a greater concentration of larger units in the urban areas, i.e., establishments with 2-5 hired workers or 6-9 hired workers.

6.96 Majority of the self-employed workers were in OAEs as owner operators or as family labour. The OAEs operate with low productive assets (approximately worth Re 39 thousand in rural areas and 70 thousand in urban areas), mostly self-owned and with low value-additions of barely Re 14000 and Rs 26100 per annum in rural and urban areas respectively in 1999-2000. This indicates the small scale operation and the consequent low returns of such low investments.

6.97 Overall, a large proportion of OAEs (with no hired workers) were engaged mainly in some form of survival operations rather than carrying on with a business activity in the proper sense of the term. Thus, very large proportions of the OAEs do not have sustainable livelihoods, particularly in the rural areas. The urban enterprises have a bigger scale of operation and also get higher returns on their investments. The family labour based enterprises are also likely to be self-exploiting their own and family labour. Hence, they need assistance from the state or other institutions for the promotion of their livelihoods through various means.

6.98 The results of the NSS on informal sector enterprises in 1999-2000 reveal that OAEs face several constraints. Nearly 64 percent of them reported that their units were stagnating, with not much difference across rural and urban areas or industry groups. Furthermore, 85 percent of OAEs were not registered under the Factories Act and were not incorporated. The OAEs in urban areas are relatively better-off in this respect, with 12 percent registered with the local bodies and 5 percent under the Shops and Establishments Act. The main problem reported was the limited access to credit followed by marketing and infrastructural constraints. Competition from large units was also an important problem faced by these tiny enterprises. Given the fact that a substantial proportion of these units are not registered, their ability to access credit remains rather limited.

6.99 Establishments with hired workers are better-off than OAEs with no hired workers. The average value of fixed assets in the establishments with hired workers is in the range of Rs. 3 lakhs per enterprise, which is well above the average investment with OAEs of Rs. 39000 per enterprise. These establishments also have higher value of fixed assets. Gross value addition in these establishments at Rs. 39000 is nearly double that of OAEs. Establishments in the urban areas have distinctly higher value addition, just as we had observed in the case of OAEs. Enterprises that hire workers, especially those hiring between 6 and 9 workers, are somewhat better placed than the smaller ones. The fixed capital of the former is eight times higher than the latter. Even then their fixed capital estimated at Rs. 3 lakhs in 2000)

is considerably lower than the threshold for defining a micro-enterprise (i.e., Rs. 25 lakhs) under the Micro, Small and Medium Enterprise Act of 2005. Given the high proportion of such enterprises in the small scale sector, this alone points to the need for concerted attention to this segment.

6.100 Establishments with hired workers also face constraints, although to a lesser extent than OAEs. In 1999-2000, nearly 50 percent of them reported that they were stagnating. As compared to the OAEs, a larger proportion of establishments (more than half) were registered with some agency. In urban areas, 30 percent were registered with the local bodies and another 16 percent were registered under the Shops and Establishments Act. As in the case of OAEs, the problem of shortage of capital was faced by the establishments as well. In addition to competition from larger units, power related problems were also a major issue of concern for establishments.

6.101 Many others such as home workers are under the putting-out system whereby raw materials are supplied to them by agents or establishments who purchase the processed output. Most of the home workers are women. While women self-employed workers are concentrated overwhelmingly in manufacturing (60 percent), men are predominantly in trade (42 percent). Large proportion of workers in the manufacturing sector were engaged as home workers, mostly in the manufacture of tobacco products like beedi-rolling, textile products and wearing apparel.

6.102 Weak presence or even absence of organizational capital is a critical problem. Numerous tiny enterprises need some kind of associational umbrella so that they can demand better support systems, engage in creating common facilities, procurement of raw materials and marketing of products.

Conditions of Work of Self-employed Workers

6.103 Here, we present the key results of some of the case studies of specific industries reported in NCEUS (2007a). The first is the handloom weaving of cloth that continues to be the main source of livelihood of a large

number of families in the country – a little over 2.5 million by a census conducted in 1995-96. Since much of the handloom industry is home-based, a major constraint was the poor and traditional premises in which the looms were set up. The thatched roof, if not repaired regularly, resulted in leakage. The water drops stained the cloth and rendered large losses. The orders for such stained products were often cancelled. The weavers then tried to sell their products on their own leading to large losses.

6.104 An important segment of the self-employed workers are the street vendors/hawkers in India who deal with petty trade. The number of street vendors ranges from 1.5 -2 lakhs in metropolis like Mumbai and Kolkata to 30000 in small cities like Bhubaneswar. The share of women street vendors is the highest in Imphal. The SCs and other backward castes dominate the trade. Approximately 25-30 percent of the street vendors in the cities are illiterates and another 20-24 percent has only primary education. The street vendors interact with different segments of urban population and have a specific role in urban society and space. However, lack of recognition of their role culminates in a multitude of problems faced by them: obtaining license, insecurity of earnings, insecurity of place for hawking, gratifying officers and musclemen, constant eviction threat, fines and harassment by traffic policemen.

6.105 One of the most neglected and vulnerable segments of workers in the land transport sector are the Rickshaw pullers. They are primarily migrants, landless, less literate and unskilled. In addition to a large sum of money required to purchase a rickshaw, rickshaw pullers incur costs due to license and bribes to police and municipal authorities. Exploitation by public authorities of the rickshaw pullers is mainly due to the lack of awareness of laws that protect them. Rickshaw pullers have to deal with the rickshaw owners as well on rickshaw's hiring charges. Most of the rickshaw pullers stay in jhuggies or unauthorized colonies, owner's workshops or below the staircases, on footpaths, under hanging balconies on the roadside, in the rickshaws or even in the open space. The stressful life with no rest day coupled with unhygienic living conditions and limited food results in poor health of most workers. Diseases like backache, tuberculosis, asthma, hernia, weak eyesight,

and underweight are common. They have no medical insurance or access to health care facilities, forcing them to consult quacks when ill.

6.106 A relatively large proportion of the vulnerable sections of the workforce such as unpaid family workers, child workers and women workers are likely to be involved in home-based work, most often as home workers. They often do not have adequate work throughout the year. Work conditions can be exploitative if there are few alternative opportunities in the area or if work is available only to bonded labour. Home workers have little or no access to markets and the final consumer. Contractors/middlemen prefer to keep workers isolated. Lack of unionization can also be an important source of the vulnerability of the home workers. The common diseases that beedi-workers suffered were asthma, tuberculosis, spondilitis and back-strain.

Social Security

6.107 We have divided the social security problems of workers in the unorganized sector into two categories.

6.108 The first arises out of deficiency or capability deprivation in terms of adequate employment, low earnings, poor health and educational opportunities, among others, that are related to the generalized deprivation of the poorer sections of the population.

6.109 The second category arises out of adversity in the sense of an absence of adequate fallback mechanism (safety net/social protection) to meet contingencies such as ill-health, accident, death and old age. We have shown that less than six percent of the unorganised sector workers receive social security. The fact that majority of the socially depressed communities find themselves in the unorganized sector imparts a certain social dimension to vulnerability due to lack of social security.

6.110 Although the focus of this Commission has been on protective social security for workers in the unorganized sector, we recognise the fundamental importance of promotional social security as part of an overall and integrated social policy. The promotional programmes include the Integrated Child Development Scheme (ICDS), the Public Distribution System (PDS), the Mid-Day Meal Scheme, Indira Awas Yojana (IAY), and the

most recent and significant one, the National Rural Employment Guarantee Scheme(NREGS).

6.111 Within the realm of protective social security, our special concerns have been the vulnerability of workers due to stoppage of income (due to untimely demise, accident or retirement), ill-health, and protection of women workers during maternity.

6.112 Health security is a prime concern for the unorganized sector workers. Many studies in India have shown that reduced public health expenditure can have detrimental effect on the workers and their families. Illnesses requiring hospitalization could be catastrophic for poor workers. Out-of-pocket expenditure constitutes over three-quarters of the total health expenditure for all Indians. On average, a person in the poorest quintile is much less likely to receive treatment than those in the richest quintile, and women are even more likely to forego treatment. The health-related vulnerabilities mentioned above can be compounded, especially for the poor households, due to the fact that there has been a steep rise in the cost of treatment for healthcare in India in recent years.

6.113 Maternity benefit is another important social security concern for the well-being of mother and the child and for the continuity of employment for women in the unorganized sector. Given the high levels of maternal mortality and morbidity in India, access to safe motherhood for poor working women in the unorganized sector is of critical importance. A major concern expressed by the poor women working in the unorganized sector is also the loss of income during advanced periods of maternity and immediately after childbirth.

Constraints on Self-employed Workers & Informal Enterprises

6.114 Paradoxically, the precarious nature of informal enterprises is, in part, due to the restrictive nature of the regulatory regimes under which they have to operate, and partly due to their small size. In our report on Conditions of Work, we have highlighted the negative impact of different regulatory regimes and ill-conceived development policies (such as in the sphere of urban development) on informal sector enterprises. Some of the

other principal constraints faced by these enterprises relate to the lack of entrepreneurial capacity, skills, access to capital and credit; raw materials and markets and technology.

6.115 The conclusions from the large numbers of case studies, also substantiated by macro surveys and macro data, confirm a very low penetration of formal credit among informal sector units, low overall access to credit, and a high unmet credit need among these units (NCEUS 2007b).

6.116 Handloom weaving of cloth is the lowest in the hierarchy of technologies of textile manufacturing. Our studies have established a number of reasons why handloom weavers continue to be trapped in a vicious cycle of poverty leading to a high dependence on informal loans both for working capital as well as consumption. Two-thirds of the respondents in the survey of weavers in UP reported that they had taken loans, mainly from the co-operative society and also from friends and relatives. The average loan amount was about Rs. 23000. Number of people taking loan from banks was negligible. There are no special provisions for weavers to access loans from the banks. Capital and credit were found to be the single largest problem in surveys of food processing units. Limited access to capital and credit was also reported in the informal rice milling units.

6.117 In petty trade in India, the street vender's earnings are very low. The average daily income of male vendor is Rs. 70 in most cities and women vendors earn considerably less – Rs. 40 per day. Most of the vendors report having borrowed from moneylenders who charge exorbitant rates, sometimes, the interest rate exceeds 100-125 percent or even 10 percent per day.

6.118 The home workers earn very little, are paid on piece rate, at very low rates, and are often dependent on the middlemen for wages and work. Women home workers in the beedi, agarbatti and zardoshi work receive very low wages and report a high level of indebtedness.

6.119 Competition from larger units, access to markets and raw materials are the other major problems faced by the informal sector units.

6.120 In the handloom sector, the problems of raw material supply and marketing were closely linked. Over the last decade the weavers have become highly dependent on traders and the co-operative societies for meeting their raw material demand and marketing their products. In the process, the weavers were reduced to a sort of putting-out system. As they were highly dependent on the trader or co-operative society, they were unable to bargain or get a good price for their efforts.

6.121 In addition to inadequate access to capital and credit, other most common problems reported by food processing units were marketing and securing raw materials.

6.122 The home workers in beedi-rolling face uneven quality and availability of raw material. This results in low incomes and also greater rejection of the output that affected their income. Rejection of beedis on the ground of poor quality and providing less than the required amount of raw material were methods used to reduce the wage payments and keep the wages below the Minimum Wages.

6.123 Small improvements in technology can go a long way in improving the condition of the informal sector enterprises and raising the level of living of their workers. Majority of the weavers in our study still used the traditional pit-looms rather than the frame looms. The weavers reported some changes in technology in terms of new designs and products including the quality of the colour dyes, but only half of the respondents had adopted these changes. The reason cited for non-use of new methods was that the increased returns to these investments were not in proportion to increase in costs.

6.124 In the studies of the rice milling industry in Punjab and West Bengal reviewed by us, hullers, mini-shellers and husking mills in the informal sector used older technologies with greater wastage of paddy and lower value by-products, compared to the rice mills in the formal sectors.

6.125 The plight of rickshaw pullers is accentuated by the low technology used in the design of the rickshaw. The basic bolted-on unit is inflexible and misaligned making the task of rickshaw pulling inefficient and extra

tedious. This has evident negative consequences for puller's health. In the subsequent chapters we focus on these issues and make appropriate recommendations.

The Commission's Strategy of 'Levelling Up'

6.126 A strategy for reducing the share of the informal economy in the overall economy would be an eminently appealing idea to this Commission. This however postulates that the formal segment of the economy will be in a position to absorb into formal employment the informal workers at a rate that would exceed their rate of growth by a wide margin. Such a classical process of structural transformation is nowhere in the horizon for a variety of reasons including the structural and socio-economic rigidities of the Indian economy. While we would like to see the Government adopting a more employment-friendly policy for the formal sector of the economy, the ground reality in India is that the informal economy is too large and structurally too weak to be taken care of by such a policy. We have therefore recommended a strategy of 'levelling up' the informal economy by addressing what we call the foundational issues such as the basic developmental problems that would place a priority on enhancing human capabilities and basic socio-economic security. Based on such an approach we have advocated a series of promotional policies to strengthen the working conditions, enterprise capacity and so on resulting in increasing the productivity along with providing social security and decent conditions of work. These are:

- (i) Creation of a 'social floor' consisting of providing a national minimum social security, enforcing a national floor level wage called National Minimum Wage below which no trade/area-specific minimum wage should be fixed and a stipulation of minimum conditions of work. These have been elaborated in our *Report on Social Security for Unorganised Workers* and *Report on Conditions of Work and Promotion of Livelihoods in the Unorganised Sector* (NCEUS 2006, 2007a).

On social security, the NCEUS (2006 & 2007a) had made a comprehensive proposal to introduce a National Minimum Social Security to all the unorganised or informal workers in

the country. Following the submission of the report, a draft bill was introduced by the Government in Parliament that was subjected to a detailed scrutiny by a Parliamentary Standing Committee which submitted a report in November 2007 endorsing not only the recommendations of this Commission but also going beyond it by including 'unpaid family workers' and a shortened implementation time, among others (Lok Sabha Secretariat 2007). However, the final bill passed by the Parliament retained most, if not all, of the features of the earlier draft. This Act, Social Security for Unorganised Workers Act of 2008 has fallen short of the many salient features of the above two reports. It basically provides a framework for the Government to come up with schemes as and when it deems appropriate. The Act has been followed by the introduction of two schemes, one limited to the 'households below poverty line' in the form of a social insurance against sickness and maternity and another limited to 'rural landless households' in the form of a life insurance. The Act does not provide for a 'national minimum social security' for all unorganised (informal) workers. It also does not provide for an empowered body at the national and state levels nor a dedicated fund for financing the proposed national minimum social security. The economics of inclusion is yet to catch up with the politics of inclusion. The disconnect between the dominance of neo-liberal orthodoxy in economic policy and the yearning of the vast majority of the working population for a life of work with dignity and security is getting increasingly glaring in a fast growing India.

- (ii) Skill formation for the informal workers is a critical capability to enhance their productivity and thereby income. This is applicable to both the wage workers as well as those self-employed because of its central role in reducing the gap in productivity between the formal and informal sector. This is also an active labour market policy that would contribute to the transformation of the coming *demographic burden into a demographic dividend*. This issue has been discussed in chapter 8 with detailed analysis given in a

- separate Report on Skill Formation for Informal Workers (NCEUS 2009).*
- (iii) Public employment programme is a cushion against the deficiencies in employment faced by the working poor especially the casual wage workers. It is quite possible that some sections of the poor, now out of the labour for a variety of socio-economic reasons, might participate in such employment programmes given the dignity and assurance of fair wages attached to such programmes. From a macro economic point of view, we view it as a means to enhance the effective demand of a large segment of the population who cannot now articulate such demand and hence remain poor and vulnerable. It is in this light that we view and give our recommendations on strengthening the National Rural Employment Programme meant for the rural areas, discussed in Chapter 9. There we also strongly advocate the introduction of a similar programme in the urban areas taking into account the characteristics of the urban informal workers and their conditions of poverty and vulnerability as well as to connect it up with a programme for urban renewal.
 - (iv) Agricultural regeneration through focus on marginal and small farmers is another area that we have discussed in Chapter 10 on which there is a detailed *Report on A Special Programme for Marginal and Small Farmers* (NCEUS 2008b). The Commission is aware of the detailed work and recommendation of the National Commission on Farmers and the large number of reports and studies including scholarly analysis carried out by an array of distinguished scholars. From an informal economy perspective, what this Commission has done is to advocate a strategy for the large number of marginal and small farmers who constitute 84 percent of the total farmers in the country contributing to a little more than half of the agricultural output. This group approach is something that this Commission feels necessary, if not sufficient, to bring together the number of promotional and protective programmes available to the farming community.
 - (v) Development of micro enterprises in the non-farm sector is the last, but certainly not the least, in our strategy of levelling up the informal economy. The Commission's estimates suggest that more than 141 million workers are employed in this sector, contributing to 30 percent of the GDP. Yet it would not be an exaggeration to say that it is, by and large, a neglected sector. Credit to the sector has been miniscule and there is very little access to other complimentary factors such as technology, marketing and raw materials. Although there are a number of sector or trade-specific promotional organisations (KVIC, Coir Board, Handloom Board, etc.), their cumulative impact seems to be minimal when we compare the outcomes in terms of productivity, earnings and conditions of work in this sector. *Access to credit* has been a major problem area which this Commission examined in detail and put forward certain recommendations including the creation of a development agency for refinancing and other developmental activities. These two issues are discussed in detail in our *Reports on Financing of Enterprises and Creation of a National Fund for the Unorganised Sector* (NCEUS 2007b) and under the consideration of the Government for the past 20 months. We have thought it fit to recapture the arguments in Chapter 12 and emphasize the need to examine the recommendations on a priority basis. In fact Chapters 11-13 examine the overall scenario of the micro enterprise sector to underline the importance of ensuring access to not only credit but also technology, marketing and raw materials.
 - (vi) Development of clusters and growth poles is the logical culmination of our discussion on micro enterprises. As in the case of marginal and small farmers, the employers in the micro enterprises also cannot access and utilise effectively a number of programmes and schemes. They also need to be approached within the framework of a group to overcome their small size, indivisibilities in investment and a host of common issues. Fortunately, there are a large number of clusters of industries/businesses that

have evolved over a long period of time in this country. The ongoing Cluster Development Programme is a welcome initiative but needs to be strengthened in terms of an equal emphasis on social and human capability dimensions. It also needs to be enlarged to cover a larger number. These clusters, wherever they are concentrated in a given geographical space, also offers scope for developing them into what we call Growth Poles. Given the employment generating capacity of these enterprises, their collective development will also contribute to enhancing productivity and output in the economy. This

could then be a foundation for building up decent conditions of work and ensuring fair wages and social security.

6.127 Before we discuss these issues, the Commission considered it appropriate to examine the oft-repeated argument about labour market rigidity (usually referring to a provision in the Industrial Disputes Act and to eliminate inspection on labour issues) as a stumbling block to the creation of jobs in the formal sector. We therefore discuss this in the next chapter before proceeding to discussing our strategy and recommendations in the subsequent chapters.

Appendix 6.1: Methodology of Employment Projections

The technique generally used for projecting employment impact of GDP growth is to use employment elasticities estimated on the basis of past data. The estimates of employment and GDP by each industry group viz. Agriculture, Industry and Services are available for the years 1993-94 and 2004-05. It is, however, considered necessary to project the employment generation by formal and informal sectors and also to get the break-up of the projections by formal and informal work status. Even though the employment shares of formal and informal workers are available for the years 1999-2000 and 2004-05, similar estimates for 1993-94 are not available. The first step in the employment projection was, therefore, to get the break-up of industry-wise estimates for formal and informal sectors both for GDP and employment in the year 1993-94. This was done by projecting backward the average annual changes in the shares of formal and informal sectors between 1999-2000 and 2004-05 in each industry group. In the case of agriculture, the procedure can be expressed as follows by using mathematical notation.

$$SA_{1993-94}^f = SA_{1999-00}^f - 6 * \Delta^f$$

where $SA_{1993-94}^f$ is the share of formal sector agriculture in the year 1993-94

$SA_{1999-00}^f$ is the share of formal sector agriculture in the year 1999-00

Δ^f is the average annual change in the share of formal sector between 1999-2000 and 2004-05

$$SA_{1993-94}^{if} = 1 - SA_{1993-94}^f$$

where $SA_{1993-94}^{if}$ is the share of informal sector agriculture in the year 1993-94

By using the shares estimated both for GDP and workers in the year 1993-94, the estimates for the industry groups were divided between formal and informal sectors. These were compared with the estimates for 2004-05, and employment elasticities were computed by dividing the

growth rate of workers with the growth rates of GDP for each sector in each industry group. The GDP estimates for 2006-07 and 2007-08 were also divided by projecting forward the shares of formal and informal sectors.

For the years 2011-12 and 2016-17, the GDP projections based on different growth rates were divided between industry groups and formal and informal sectors by using the average annual change in shares between 2004-05 and 2007-08, which was a high growth period of Indian economy. However, in the case of agriculture, the growth rate in GDP between 2006-07 and 2011-12 was assumed to continue till 2016-17 and the shares of industry & services were accordingly adjusted.

The GDP estimates for the years 2005-06 onwards at 1999-2000 prices were further adjusted to account for productivity growth. It was done by reducing the addition to GDP in each year over the previous year by using productivity growth rates between 1993-94 and 2004-05 in each industry and sector. The reduced GDP addition thus projected were added to the previous year GDP to obtain GDP projections discounted for productivity growth. The growth rates of GDP by industry and sector were then worked out by using the above projections. The growth rates of employment were then worked out by multiplying the GDP growth rates with employment elasticities. These growth rates were applied to employment estimates for 2004-05 to obtain industry-wise and sector-wise projections of employment for subsequent years.

The employment projections obtained for formal and informal sectors in each industry group were further divided into formal and informal workers by using the average annual percentage changes in shares between 1999-2000 and 2004-05.

The projected percentage shares of formal and informal sector as well as formal and informal workers based on UPSS estimates were applied to MCWS estimates for obtaining MCWS employment projections.

Appendix 6.2: Employment Projections by Industry & Sector Using UPSS Measurement

Table 6.2.1: Employment Projections by Industry (UPSS)

Year	Projected GDP Growth (%)	Employment Estimate/Projection (million)			
		Agriculture	Industry	Services	Total
2004-05	Actual	257.76	85.29	112.65	455.70
2006-07	Actual	265.43	94.72	124.87	485.02
2011-12	9	278.56	116.99	157.85	553.40
	7	273.60	113.47	153.18	540.26
	5	268.68	110.03	148.61	527.32
2016-17	9	292.68	142.37	195.49	630.54
	7	282.12	131.13	180.06	593.30
	5	271.79	120.79	165.93	558.52

Source: Computed and Projected by NCEUS.

Table 6.2.2: Employment Projections by Sector (UPSS)

Year	Projected GDP Growth (%)	Employment (million)			Percentage		
		Formal Sector	Informal Sector	Total	Formal Sector	Informal Sector	Total
2004-05	Actual	62.56	393.14	455.70	13.73	86.27	100.00
2006-07	Actual	65.77	419.25	485.02	13.56	86.44	100.00
2011-12	9	72.97	480.43	553.40	13.19	86.81	100.00
	7	72.14	468.12	540.26	13.35	86.65	100.00
	5	71.31	456.01	527.32	13.52	86.48	100.00
2016-17	9	79.07	551.46	630.54	12.54	87.46	100.00
	7	76.75	516.55	593.30	12.94	87.06	100.00
	5	74.52	484.00	558.52	13.34	86.66	100.00

Source: *ibid.*

Appendix 6.3: Employment Projections by Industry & Sector Based on MCWS Measure

Table 6.3.1: Employment Projections by Industry & Sector with 9% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (9%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	4.98	5.02	5.10	5.16
	Informal	208.03	213.98	224.13	235.03
	Total	213.02	219.00	229.23	240.19
Industry	Formal	23.23	24.69	27.88	30.79
	Informal	54.84	61.44	77.08	95.38
	Total	78.07	86.13	104.96	126.17
Services	Formal	30.43	31.75	34.79	37.07
	Informal	79.61	90.05	118.69	152.46
	Total	110.04	121.80	153.48	189.54
Total	Formal	58.64	61.46	67.76	73.02
	Informal	342.49	365.47	419.91	482.87
	Total	401.13	426.93	487.67	555.90

Source: *ibid.*

Table 6.3.2: Employment Projections by Industry & Sector with 7% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (7%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	4.98	5.02	5.09	5.15
	Informal	208.03	213.98	220.28	226.84
	Total	213.02	219.00	225.37	231.99
Industry	Formal	23.23	24.69	27.46	29.62
	Informal	54.84	61.44	74.54	87.18
	Total	78.07	86.13	102.00	116.79
Services	Formal	30.43	31.75	34.49	36.26
	Informal	79.61	90.05	114.51	138.50
	Total	110.04	121.80	149.00	174.76
Total	Formal	58.64	61.46	67.04	71.03
	Informal	342.49	365.47	409.32	452.51
	Total	401.13	426.93	476.36	523.54

Source: *ibid.*

Table 6.3. 3: Employment Projections by Industry & Sector with 5% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (5%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	4.98	5.02	5.09	5.14
	Informal	208.03	213.98	216.44	218.81
	Total	213.02	219.00	221.53	223.95
Industry	Formal	23.23	24.69	27.05	28.49
	Informal	54.84	61.44	72.04	79.64
	Total	78.07	86.13	99.09	108.13
Services	Formal	30.43	31.75	34.19	35.47
	Informal	79.61	90.05	110.42	125.75
	Total	110.04	121.80	144.61	161.22
Total	Formal	58.64	61.46	66.32	69.11
	Informal	342.49	365.47	398.91	424.20
	Total	401.13	426.93	465.23	493.31

Source: *ibid.*

Table 6.3.4: Percentage Shares of Employment in Formal & Informal Sectors with 9% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (9%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.29	2.22	2.15
	Informal	97.66	97.71	97.78	97.85
	Total	100.00	100.00	100.00	100.00
Industry	Formal	29.76	28.67	26.56	24.40
	Informal	70.24	71.33	73.44	75.60
	Total	100.00	100.00	100.00	100.00
Services	Formal	27.65	26.07	22.67	19.56
	Informal	72.35	73.93	77.33	80.44
	Total	100.00	100.00	100.00	100.00
Total	Formal	14.62	14.40	13.89	13.14
	Informal	85.38	85.60	86.11	86.86
	Total	100.00	100.00	100.00	100.00

Source: *ibid.***Table 6.3.5: Percentage Shares of Employment in Formal & Informal Sectors with 7% Growth Rate**

Industry	Sector	Percentage Distribution of Workers by Sector (7%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.29	2.26	2.22
	Informal	97.66	97.71	97.74	97.78
	Total	100.00	100.00	100.00	100.00
Industry	Formal	29.76	28.67	26.92	25.36
	Informal	70.24	71.33	73.08	74.64
	Total	100.00	100.00	100.00	100.00
Services	Formal	27.65	26.07	23.15	20.75
	Informal	72.35	73.93	76.85	79.25
	Total	100.00	100.00	100.00	100.00
Total	Formal	14.62	14.40	14.07	13.57
	Informal	85.38	85.60	85.93	86.43
	Total	100.00	100.00	100.00	100.00

Source: *ibid.***Table 6.3. 6: Percentage Shares of Employment in Formal & Informal Sectors with 5% Growth Rate**

Industry	Sector	Percentage Distribution of Workers by Sector (5%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.29	2.30	2.30
	Informal	97.66	97.71	97.70	97.70
	Total	100.00	100.00	100.00	100.00
Industry	Formal	29.76	28.67	27.30	26.35
	Informal	70.24	71.33	72.70	73.65
	Total	100.00	100.00	100.00	100.00
Services	Formal	27.65	26.07	23.64	22.00
	Informal	72.35	73.93	76.36	78.00
	Total	100.00	100.00	100.00	100.00
Total	Formal	14.62	14.40	14.26	14.01
	Informal	85.38	85.60	85.74	85.99
	Total	100.00	100.00	100.00	100.00

Source: *ibid.*

Appendix 6.4: Employment Projections by Industry and Sector Based on UPSS Measure

Table 6.4.1: Employment Projections by Industry & Sector with 9% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (9%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	6.03	6.08	6.18	6.25
	Informal	251.73	259.35	272.39	286.43
	Total	257.76	265.43	278.56	292.68
Industry	Formal	25.38	27.14	31.03	34.63
	Informal	59.91	67.58	85.95	107.73
	Total	85.29	94.72	116.99	142.37
Services	Formal	31.15	32.54	35.76	38.19
	Informal	81.50	92.33	122.09	157.30
	Total	112.65	124.87	157.85	195.49
Total	Formal	62.56	65.77	72.97	79.07
	Informal	393.14	419.25	480.43	551.46
	Total	455.70	485.02	553.40	630.54

Source: *ibid.*

Table 6.4.2: Employment Projections by Industry & Sector with 7% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (7%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	6.03	6.08	6.17	6.24
	Informal	251.73	259.35	267.44	275.88
	Total	257.76	265.43	273.60	282.12
Industry	Formal	25.38	27.14	30.53	33.18
	Informal	59.91	67.58	82.95	97.94
	Total	85.29	94.72	113.47	131.13
Services	Formal	31.15	32.54	35.44	37.32
	Informal	81.50	92.33	117.74	142.73
	Total	112.65	124.87	153.18	180.06
Total	Formal	62.56	65.77	72.14	76.75
	Informal	393.14	419.25	468.12	516.55
	Total	455.70	485.02	540.26	593.30

Source: *ibid.*

Table 6.4.3: Employment Projections by Industry & Sector with 5% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (5%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	6.03	6.08	6.16	6.23
	Informal	251.73	259.35	262.52	265.56
	Total	257.76	265.43	268.68	271.79
Industry	Formal	25.38	27.14	30.02	31.80
	Informal	59.91	67.58	80.01	89.00
	Total	85.29	94.72	110.03	120.79
Services	Formal	31.15	32.54	35.12	36.49
	Informal	81.50	92.33	113.49	129.44
	Total	112.65	124.87	148.61	165.93
Total	Formal	62.56	65.77	71.31	74.52
	Informal	393.14	419.25	456.01	484.00
	Total	455.70	485.02	527.32	558.52

Source: *ibid.*

Table 6.4.4: Percentage Shares of Employment in Formal & Informal Sectors with 9% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (9%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.29	2.22	2.14
	Informal	97.66	97.71	97.78	97.86
	Total	100.00	100.00	100.00	100.00
Industry	Formal	29.76	28.66	26.53	24.33
	Informal	70.24	71.34	73.47	75.67
	Total	100.00	100.00	100.00	100.00
Services	Formal	27.65	26.06	22.65	19.53
	Informal	72.35	73.94	77.35	80.47
	Total	100.00	100.00	100.00	100.00
Total	Formal	13.73	13.56	13.19	12.54
	Informal	86.27	86.44	86.81	87.46
	Total	100.00	100.00	100.00	100.00

Source: *ibid.*

Table 6.4.5: Percentage Shares of Employment in Formal & Informal Sectors with 7% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (7%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.29	2.25	2.21
	Informal	97.66	97.71	97.75	97.79
	Total	100.00	100.00	100.00	100.00
Industry	Formal	29.76	28.66	26.90	25.31
	Informal	70.24	71.34	73.10	74.69
	Total	100.00	100.00	100.00	100.00
Services	Formal	27.65	26.06	23.14	20.73
	Informal	72.35	73.94	76.86	79.27
	Total	100.00	100.00	100.00	100.00
Total	Formal	13.73	13.56	13.35	12.94
	Informal	86.27	86.44	86.65	87.06
	Total	100.00	100.00	100.00	100.00

Source: *ibid.*

Table 6.4.6: Percentage Shares of Employment in Formal & Informal Sectors with 5% Growth Rate

Industry	Sector	Percentage Distribution of Workers by Sector (5%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.29	2.29	2.29
	Informal	97.66	97.71	97.71	97.71
	Total	100.00	100.00	100.00	100.00
Industry	Formal	29.76	28.66	27.29	26.32
	Informal	70.24	71.34	72.71	73.68
	Total	100.00	100.00	100.00	100.00
Services	Formal	27.65	26.06	23.63	21.99
	Informal	72.35	73.94	76.37	78.01
	Total	100.00	100.00	100.00	100.00
Total	Formal	13.73	13.56	13.52	13.34
	Informal	86.27	86.44	86.48	86.66
	Total	100.00	100.00	100.00	100.00

Source: *ibid.*

Appendix 6.5: Employment Additions (UPSS) & Projections by Formal/Informal Work Status

Table 6.5.1: Employment Additions (UPSS) by Industry during Eleventh and Twelfth Plans

Year	Projected GDP Growth (%)	Employment Estimate/Projection (million)			
		Agriculture	Industry	Services	Total
2011-12	9	13.14	22.26	32.98	68.38
	7	8.18	18.75	28.31	55.24
	5	3.25	15.31	23.74	42.30
2016-17	9	14.12	25.38	37.64	77.14
	7	8.52	17.65	26.88	53.04
	5	3.11	10.76	17.32	31.20

Source: *ibid.*

Table 6.5.2: Employment Projections (UPSS) by Formal/Informal Work Status

Year	GDP Growth Rate (%)	Employment (million)			Percentage		
		Formal	Informal	Total	Formal	Informal	Total
2004-05	Actual	35.07	420.64	455.71	7.70	92.30	100.00
2006-07	Actual	35.78	449.24	485.02	7.38	92.62	100.00
2011-12	9	36.60	516.80	553.40	6.61	93.39	100.00
	7	36.20	504.06	540.26	6.70	93.30	100.00
	5	35.81	491.51	527.32	6.79	93.21	100.00
2016-17	9	36.01	594.53	630.54	5.71	94.29	100.00
	7	35.06	558.24	593.30	5.91	94.09	100.00
	5	34.15	524.37	558.52	6.11	93.89	100.00

Source: *ibid.*

Appendix 6.6: Employment Projections by Industry and Work Status Based on MCWS Measure

Table 6.6.1: Employment Projections by Industry & Work Status with 9% Growth Rate

Industry	Work Status	Percentage Distribution of Workers by Sector (9%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.36	2.43	2.49
	Informal	210.68	216.64	226.80	237.70
	Total	213.02	219.00	229.23	240.19
Industry	Formal	8.09	8.30	7.59	6.37
	Informal	69.98	77.83	97.37	119.80
	Total	78.07	86.13	104.96	126.17
Services	Formal	22.36	23.21	24.53	25.08
	Informal	87.68	98.59	128.96	164.46
	Total	110.04	121.80	153.48	189.54
Total	Formal	32.79	33.87	34.54	33.93
	Informal	368.35	393.06	453.13	521.96
	Total	401.13	426.93	487.67	555.90

Source: *ibid.*

Table 6.6.2: Employment Projections by Industry & Work Status with 7% Growth Rate

Industry	Work Status	Percentage Distribution of Workers by Sector (7%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.36	2.43	2.49
	Informal	210.68	216.64	222.94	229.50
	Total	213.02	219.00	225.37	231.99
Industry	Formal	8.09	8.30	7.47	6.11
	Informal	69.98	77.83	94.53	110.68
	Total	78.07	86.13	102.00	116.79
Services	Formal	22.36	23.21	24.29	24.48
	Informal	87.68	98.59	124.71	150.28
	Total	110.04	121.80	149.00	174.76
Total	Formal	32.79	33.87	34.18	33.08
	Informal	368.35	393.06	442.18	490.46
	Total	401.13	426.93	476.36	523.54

Source: *ibid.*

Table 6.6.3: Employment Projections by Industry & Work Status with 5% Growth Rate

Industry	Work Status	Percentage Distribution of Workers by Sector (5%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.34	2.36	2.42	2.48
	Informal	210.68	216.64	219.11	221.47
	Total	213.02	219.00	221.53	223.95
Industry	Formal	8.09	8.30	7.35	5.87
	Informal	69.98	77.83	91.74	102.26
	Total	78.07	86.13	99.09	108.13
Services	Formal	22.36	23.21	24.06	23.90
	Informal	87.68	98.59	120.55	137.32
	Total	110.04	121.80	144.61	161.22
Total	Formal	32.79	33.87	33.83	32.26
	Informal	368.35	393.06	431.40	461.05
	Total	401.13	426.93	465.23	493.31

Source: *ibid.*

Table 6.6.4: Percentage Shares of Employment by Formal & Informal Work status with 9% Growth Rate

Industry	Work Status	Percentage Distribution of Workers by Sector (9%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	1.10	1.08	1.06	1.04
	Informal	98.90	98.92	98.94	98.96
	Total	100.00	100.00	100.00	100.00
Industry	Formal	10.36	9.64	7.23	5.05
	Informal	89.64	90.36	92.77	94.95
	Total	100.00	100.00	100.00	100.00
Services	Formal	20.32	19.06	15.98	13.23
	Informal	79.68	80.94	84.02	86.77
	Total	100.00	100.00	100.00	100.00
Total	Formal	8.17	7.93	7.08	6.10
	Informal	91.83	92.07	92.92	93.90
	Total	100.00	100.00	100.00	100.00

Source: *ibid.***Table 6.6.5: Percentage Shares of Employment by Formal & Informal Work status with 7% Growth Rate**

Industry	Work Status	Percentage Distribution of Workers by Sector (7%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	1.10	1.08	1.08	1.07
	Informal	98.90	98.92	98.92	98.93
	Total	100.00	100.00	100.00	100.00
Industry	Formal	10.36	9.64	7.32	5.23
	Informal	89.64	90.36	92.68	94.77
	Total	100.00	100.00	100.00	100.00
Services	Formal	20.32	19.06	16.30	14.01
	Informal	79.68	80.94	83.70	85.99
	Total	100.00	100.00	100.00	100.00
Total	Formal	8.17	7.93	7.18	6.32
	Informal	91.83	92.07	92.82	93.68
	Total	100.00	100.00	100.00	100.00

Source: *ibid.***Table 6.6.6: Percentage Shares of Employment by Formal & Informal Work status with 5% Growth Rate**

Industry	Work Status	Percentage Distribution of Workers by Sector (5%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	1.10	1.08	1.09	1.11
	Informal	98.90	98.92	98.91	98.89
	Total	100.00	100.00	100.00	100.00
Industry	Formal	10.36	9.64	7.42	5.43
	Informal	89.64	90.36	92.58	94.57
	Total	100.00	100.00	100.00	100.00
Services	Formal	20.32	19.06	16.64	14.83
	Informal	79.68	80.94	83.36	85.17
	Total	100.00	100.00	100.00	100.00
Total	Formal	8.17	7.93	7.27	6.54
	Informal	91.83	92.07	92.73	93.46
	Total	100.00	100.00	100.00	100.00

Source: *ibid.*

Appendix 6.7: Employment Projections by Industry and Work Status by Using UPSS Measure

Table 6.7.1: Employment Projections by Industry & Work Status with 9% Growth Rate

Industry	Work Status	Percentage Distribution of Workers by Sector (9%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.84	2.86	2.94	3.02
	Informal	254.93	262.57	275.62	289.66
	Total	257.77	265.43	278.56	292.68
Industry	Formal	9.17	9.13	8.45	7.16
	Informal	76.13	85.60	108.54	135.20
	Total	85.30	94.72	116.99	142.37
Services	Formal	23.06	23.79	25.21	25.83
	Informal	89.58	101.08	132.64	169.66
	Total	112.64	124.87	157.85	195.49
Total	Formal	35.07	35.78	36.60	36.01
	Informal	420.64	449.24	516.80	594.53
	Total	455.71	485.02	553.40	630.54

Source: *ibid.*

Table 6.7.2: Employment Projections by Industry & Work Status with 7% Growth Rate

Industry	Work Status	Percentage Distribution of Workers by Sector (7%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.84	2.86	2.94	3.02
	Informal	254.93	262.57	270.66	279.10
	Total	257.77	265.43	273.60	282.12
Industry	Formal	9.17	9.13	8.30	6.85
	Informal	76.13	85.60	105.17	124.28
	Total	85.30	94.72	113.47	131.13
Services	Formal	23.06	23.79	24.96	25.20
	Informal	89.58	101.08	128.22	154.86
	Total	112.64	124.87	153.18	180.06
Total	Formal	35.07	35.78	36.20	35.06
	Informal	420.64	449.24	504.06	558.24
	Total	455.71	485.02	540.26	593.30

Source: *ibid.*

Table 6.7.3: Employment Projections by Industry & Work Status with 5% Growth Rate

Industry	Work Status	Percentage Distribution of Workers by Sector (5%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	2.84	2.86	2.94	3.01
	Informal	254.93	262.57	265.74	268.78
	Total	257.77	265.43	268.68	271.79
Industry	Formal	9.17	9.13	8.16	6.55
	Informal	76.13	85.60	101.88	114.24
	Total	85.30	94.72	110.03	120.79
Services	Formal	23.06	23.79	24.72	24.59
	Informal	89.58	101.08	123.90	141.35
	Total	112.64	124.87	148.61	165.93
Total	Formal	35.07	35.78	35.81	34.15
	Informal	420.64	449.24	491.51	524.37
	Total	455.71	485.02	527.32	558.52

Source: *ibid.*

Table 6.7.4: Percentage Shares of Employment by Formal & Informal Work status with 9% Growth Rate

Industry	Work Status	Percentage Distribution of Workers by Sector (9%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	1.10	1.08	1.06	1.03
	Informal	98.90	98.92	98.94	98.97
	Total	100.00	100.00	100.00	100.00
Industry	Formal	10.75	9.63	7.22	5.03
	Informal	89.25	90.37	92.78	94.97
	Total	100.00	100.00	100.00	100.00
Services	Formal	20.47	19.05	15.97	13.21
	Informal	79.53	80.95	84.03	86.79
	Total	100.00	100.00	100.00	100.00
Total	Formal	7.70	7.38	6.61	5.71
	Informal	92.30	92.62	93.39	94.29
	Total	100.00	100.00	100.00	100.00

Source: *ibid.***Table 6.7.5: Percentage Shares of Employment by Formal & Informal Work status with 7% Growth Rate**

Industry	Work Status	Percentage Distribution of Workers by Sector (7%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	1.10	1.08	1.07	1.07
	Informal	98.90	98.92	98.93	98.93
	Total	100.00	100.00	100.00	100.00
Industry	Formal	10.75	9.63	7.31	5.22
	Informal	89.25	90.37	92.69	94.78
	Total	100.00	100.00	100.00	100.00
Services	Formal	20.47	19.05	16.30	13.99
	Informal	79.53	80.95	83.70	86.01
	Total	100.00	100.00	100.00	100.00
Total	Formal	7.70	7.38	6.70	5.91
	Informal	92.30	92.62	93.30	94.09
	Total	100.00	100.00	100.00	100.00

Source: *ibid.***Table 6.7.6: Percentage Shares of Employment by Formal & Informal Work status with 5% Growth Rate**

Industry	Work Status	Percentage Distribution of Workers by Sector (5%GDP)			
		2004-05	2006-07	2011-12	2016-17
Agriculture	Formal	1.10	1.08	1.09	1.11
	Informal	98.90	98.92	98.91	98.89
	Total	100.00	100.00	100.00	100.00
Industry	Formal	10.75	9.63	7.41	5.42
	Informal	89.25	90.37	92.59	94.58
	Total	100.00	100.00	100.00	100.00
Services	Formal	20.47	19.05	16.63	14.82
	Informal	79.53	80.95	83.37	85.18
	Total	100.00	100.00	100.00	100.00
Total	Formal	7.70	7.38	6.79	6.11
	Informal	92.30	92.62	93.21	93.89
	Total	100.00	100.00	100.00	100.00

Source: *ibid.*

Appendix 6.8: UPSS Estimates/Projections of Labour Force, Employment, Unemployment and Unemployment Rate

Item	GDP Growth Rate (%)			Million Number	
		2004-05	2006-07	2011-12	2016-17
Labour Force	9.88	466.3	489.1	537.6	583.40
	9	455.7	485.02	553.40	630.54
	7	455.7	485.02	540.26	593.30
	5	455.7	485.02	527.32	558.52
Unemployed	9	10.60	4.08	-15.80	-47.14
	7	10.60	4.08	-2.66	-9.90
	5	10.60	4.08	10.28	24.88
Unemployment Rate	9	2.27	0.83	-2.94	-8.08
	7	2.27	0.83	-0.49	-1.70
	5	2.27	0.83	1.91	4.27

Source: *ibid.*

Appendix 6.9: Percentage Distribution of Workers by Sector, Work Status and Economic Activity

Table 6.9.1: Percentage Distribution of Formal & Informal Sector Workers by Major Economic Activity in 1999-2000 and 2004-05

	1999-2000			2004-05		
	Informal Sector	Formal Sector	Total	Informal Sector	Formal Sector	Total
			Agriculture			
Informal workers	98.73	1.27	100.00	98.74	1.26	100.00
Formal workers	13.47	86.53	100.00	0.71	99.65	100.00
Total	97.66	2.34	100.00	97.66	2.34	100.00
			Industry			
Informal workers	78.29	21.71	100.00	78.04	21.95	100.00
Formal workers	5.57	94.54	100.00	5.46	94.75	100.00
Total	68.58	31.43	100.00	70.25	29.76	100.00
			Services			
Informal workers	89.01	10.99	100.00	89.94	10.03	100.00
Formal workers	4.17	95.83	100.00	3.90	96.14	100.00
Total	69.15	30.85	100.00	72.35	27.66	100.00
			Total			
Informal workers	93.65	6.35	100.00	93.12	6.87	100.00
Formal workers	5.32	94.68	100.00	4.05	96.06	100.00
Total	86.15	13.85	100.00	86.28	13.73	100.00

Source: NSSO 55th and 61st Round Survey on Employment-Unemployment. Computed.

Table 6.9.2: Percentage Distribution of Formal/Informal Workers by Major Economic Activity in 1999-2000 and 2004-05

	1999-2000			2004-05		
	Informal Sector	Formal Sector	Total	Informal Sector	Formal Sector	Total
			Agriculture			
Informal workers	67.85	5.45	59.21	64.02	5.13	55.94
Formal workers	0.12	4.68	0.75	0.01	4.51	0.62
Total	67.97	10.11	59.96	64.03	9.64	56.56
			Industry			
Informal workers	12.81	22.10	14.10	15.11	26.71	16.71
Formal workers	0.14	14.83	2.17	0.13	13.86	2.01
Total	12.95	36.93	16.27	15.24	40.56	18.72
			Services			
Informal workers	18.81	14.45	18.21	20.50	14.37	19.66
Formal workers	0.27	38.51	5.57	0.23	35.42	5.06
Total	19.08	52.96	23.77	20.73	49.80	24.72
			Total			
Informal workers	99.48	41.97	91.52	99.64	46.20	92.31
Formal workers	0.52	58.03	8.49	0.36	53.78	7.69
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: *ibid.*

7

Labour Law Reforms : Beyond a Narrow Agenda

Introduction

7.1 The labour market reform has occupied the political centre stage in the country for quite some time now. The Commission is of the view that the debate on labour reforms in India has tended to focus narrowly on the contentious issue of entry and exit policy only. It has been contended that an excessively restrictive regulatory regime in respect of employment of labour has tended to slacken the employment growth in Indian industries in general and in the organised or formal sector in particular. It is also seen to be responsible for the increase in employment share of the informal or unorganised sector where most labour laws do not apply.

7.2 An unfortunate fallout of this extreme preoccupation with entry and exit policy has been that it has pushed into the background a number of other equally important reforms in this area which are much less controversial and which could have been promoted by building consensus among the various stakeholders. These include issues such as simplification, rationalisation and consolidation of laws, improving their implementation, and reforms related to the dispute settlement mechanism.

7.3 A major issue in the area of labour reforms is how to ensure minimum conditions of decent work and livelihood in the unorganised or informal sector of the economy. The limited applicability of important laws and the application

of number filters have led to the emergence of a dual labour market in India with the attendant implication of the overwhelmingly larger sections of the unorganised/ informal sector labour being deprived of protection from laws in many spheres.

7.4 What the Commission focuses here is to examine the relationship between labour laws and employment. We do so after dealing with the evolution, scope and coverage of labour laws. Then we identify the major issues in labour reforms and after a careful examination of their pros and cons, make a set of recommendations, which in our view, strike a proper balance between the requirement of economic growth and the need to ensure decent conditions of work and living standards as well as minimum social protection.

Evolution of Labour Laws in India

7.5 Though the emergence of labour regulations in India can be traced back to the period of British rule in India, most of the existing laws governing various aspects of work were passed in quick succession of each other after Independence. There was a complete change in the approach to labour legislation after the attainment of Independence in 1947, as the ideas of social justice and welfare state as enshrined in the Constitution of India became the guiding principles for the formulation of labour regulations. The Constitution made specific mention of the duties that the state owes to labour for their social regeneration and economic uplift. For example,

one of the significant duties which have a direct bearing on social security legislation is to make effective provision for securing public assistance in the case of unemployment, old age sickness, disablement and other cases of undeserved want (Papola et. al. 2007).

7.6 It was considered necessary that in an independent democratic country, the employers' rights to hire, dismiss and alter conditions of employment were subjected to regulation so as to ensure a fair deal to workers. Accordingly, the Industrial Disputes Act enacted in 1947 laid down procedures and conditions for layoffs, retrenchment and closure and for creation, maintenance and promotion of industrial peace in industrial establishments. This Act was later amended in 1976 and also in 1982 seemingly to give progressively greater protection to workers. The Factories Act 1948, which replaced the one enacted in 1881, aims at regulating the conditions of work in manufacturing establishments and to ensure adequate safety, sanitary, health and welfare measures, hours of work, leave with wages and weekly off for workers employed in 'factories' defined as establishments employing 10 or more workers using power and above 20 workers without using power. Similarly, the Minimum Wages Act 1948 is the most important legislation that was expected to help unorganised or informal workers survive despite the lack of bargaining power. The minimum wages for scheduled employment are to be fixed and periodically revised by the Central and state governments in their respective spheres.

7.7 The Industrial Employment (Standing Orders) Act 1946 is another legislation regulating the conditions of recruitment, discharge and disciplinary action applicable to factories employing 100 or more workers. It requires the employers to classify workers into different categories as permanent, temporary, probationers, casual, apprentices and substitutes. The Contract Labour (Regulation and Abolition) Act 1970 regulates the employment of contract labour and prohibits its use under certain circumstances. It applies to all establishments and contractors who currently or in the preceding year employed at least 20 contract workers. The idea behind this Act is to prevent denial of job security in cases where it is feasible and of social security where it is a legitimate legal entitlement. In the sphere of social security, Employees State Insurance Act of 1948 provides for certain social security benefits like medical, sickness,

maternity and injury to workmen employed in or in connection with the work of non-seasonal factories employing 20 or more workers. Medical benefits are also provided to retired insured persons and his/her spouse. Besides the above major laws there are several others that have been enacted for improving the conditions of employment and protecting the overall welfare of industrial workers after Independence.

7.8 The Commission recognizes that even though the protection of labour has been the primary motivation to introduce various measures of labour regulation, there is an implicit assumption that they are good for industry as well. There seemed to be a clear recognition and understanding that humane treatment, welfare, well-being and security make the work force more efficient and productive and it is, therefore, in the interest of the employers to provide good working conditions, social security against the risks at work and in life and an assurance that a worker will not be removed from job unfairly or without adequate notice and compensation. It is also obviously in the interest of both the workers and the industry to have industrial peace, and, therefore, a mechanism to redress grievances and settlement of disputes should be welcome to both. Thus, regulation of different aspects of employment, conditions of work, welfare, social security, job security and industrial relations is deemed to be part of a social contract and generally accepted and honoured both by workers and employers.

Important Labour Regulations & Their Coverage

7.9 Labour is a concurrent subject in the Constitution of India, on which both the Centre and the states can legislate in their respective spheres. As per Annual Report (2007-08) of the Ministry of Labour & Employment there are 43 labour laws in the central sphere. The focus of our discussion here is on labour regulations in the central sphere.

7.10 Indian labour regulations can be broadly grouped into four broad areas based on the aspects of employment covered by them: conditions of work, wages and remuneration, employment security and industrial relations and social security and welfare of workers. This section looks specifically at the applicability and coverage of the following 10 important labour regulations in Indian industry.

1. **On Conditions of Work**
 - a. Factories Act, 1948
 - b. The Contract Labour (Regulation & Abolition) Act, 1970
 - c. Shops and Commercial Establishments Act (State Act)
2. **On Wages and Remuneration**
 - a. The Minimum Wages Act, 1948
 - b. Payment of Wages Act, 1936
3. **On Social Security**
 - a. Employees' Provident Fund Act, 1952
 - b. Workmen's Compensation Act, 1923
 - c. Employees State Insurance Act, 1948
4. **On Employment Security and Industrial Relations**
 - a. The Industrial Disputes Act, 1947
 - b. Industrial Employment (Standing Orders) Act, 1946.

7.11 The Commission finds that different labour regulations have varying coverage in terms of the sectors or industries and categories of workers. It is therefore important to have an idea of the effectiveness of the coverage of important labour laws. A recent exercise on this important issue relates to the year 1999 (Pais 2007). The study is based on the NSSO data on Employment-Unemployment situation and the annual returns on implementation of different labour legislation compiled by the Labour Bureau. The details of the methodology used and important findings of the study are given in the Appendix 7.1. to this chapter. The Commission notes here that the most stringent provisions of the Industrial Disputes Act, Chapter VB, are applicable to only about 1.4 per cent of the total work force or 3 per cent of the hired workforce. As per the study, if we exclude the Employees Provident Fund Act, the effectiveness of coverage is highest in the case of the Employees State Insurance Act (87.5 per cent) followed by the Factories Act at 73.5 per cent. The Shops and Establishments Act has an effective coverage of 44.7 per cent. Thus, if we take the effectiveness of coverage of different labour regulations into consideration, the actual coverage of the labour regulations in India is very small: the laws themselves apply only to a small proportion of workforce and they are actually implemented in the case of even smaller segments.

Relation between Labour Laws & Employment Generation

7.12 The case for labour reforms towards greater flexibility is sought to be supported, among others, by the *ex ante* adverse effects of existing 'inflexibility' on employment. It is generally argued not only by the industry but also by some economists (e.g. Fallon and Lucas 1991, Ahluwalia 1992, Besley and Burgess 2004) that the organised sector employment in the country has not grown primarily because of the labour legislation. In other words the 'inflexibility' arising from labour legislation prompts entrepreneurs to decide in favour of capital-intensive technologies. Implicit in this argument are the following premises: *One*, a technology, which was more labour intensive than the one adopted, was available. *Two*, this technology was more efficient in so far as it produced the output at a lower unit cost. *Three*, yet a decision was taken to use a capital-intensive technology because of the apprehension that the workers once hired cannot be fired, even if found necessary in future, because of the highly restrictive labour legislation. A faster growth of employment in the unorganised or informal sector is often referred to as an evidence of the employers' unwillingness to expand employment in large-sized factories in which the protective labour laws are applicable and instead farm out work to smaller units.

7.13 It is important to examine this line of argument on logical as well as empirical bases. Primarily, it is doubtful whether similarly efficient technological options using more or less labour per unit of output are actually available in the case of any significant number of production lines. Many economists now believe that most often the choices are between products rather than techniques of production. Second, even when such technologies are available it is further doubtful if the cost-differences between them are only marginal. If the differences are significant, choice in favour of a different technique (which in the present case would be a capital intensive one) would not be taken at all irrespective of any extraneous factor. For, the cost of such a decision would be too high for any prudent entrepreneur. In fact, it appears that the industry is taking a rational decision in opting for technological change on the basis of their own assessment of the market trends in demand and given factor price relativities; and, argument concerning labour legislation is only a lobbying point towards further

deregulation to permit greater flexibility in labour use with a view to solely reducing the labour cost.

7.14 The contention that the employers do not hire because they cannot retrench and 'exit' due to labour legislation and union pressure has limited validity in the face of the experience in many industries where the workforce in organised sector has been drastically reduced in a short period reflecting large scale retrenchments and

closures, despite the lack of an "easy exit" in law. Large decline in the workforce of textile mills in different centres, such as Ahmedabad and Kanpur during 1980's has been documented by earlier studies (e.g. Papola 1994). Similar decline in textiles, basic metals and paper products is observed, during the 1990's and in more recent years (Table 7.1). Several industries, on the other hand, expanded employment despite the 'restrictive' labour laws (Kannan and Raveendran 2009). Employment in the

Table 7.1: Annual growth rate of Total & Organised Manufacturing Employment: 1983/2004-05

NIC 98	Description	Total Manufacturing (NSSO data)			Organised Manufacturing (ASI data)		
		1993-94 / 1983	2004-05 / 1993-94	2004-05 / 1983	1993-94 / 1983-84	2004-05 / 1993-94	2004-05 / 1983-84
15	Food Products & Beverages	3.45	0.85	2.11	1.33	0.71	1.01
16	Tobacco Products	2.47	1.51	1.98	1.33	0.21	0.75
17	Textile Products	2.08	0.96	1.50	-1.07	-0.36	-0.71
18	Wearing Apparel, Dressing & Dyeing of fur	4.02	4.20	4.11	13.53	7.23	10.26
19	Leather Tanning & Dressing	2.21	4.84	3.55	5.07	2.24	3.62
20	Wood & Products of Wood & Cork	1.15	4.27	2.73	-0.76	-2.39	-1.60
21	Paper & Paper Products	2.03	4.00	3.03	1.34	1.17	1.25
22	Publishing, Printing, etc.	1.85	5.07	3.49	-1.15	-2.26	-1.72
23	Coke, Refined Petroleum Products	-4.77	-1.92	-3.32	3.83	1.16	2.46
24	Chemicals & Chemical Products	3.93	2.04	2.96	2.70	1.37	2.02
25	Rubber & Plastic Products	8.78	2.03	5.27	3.61	3.50	3.55
26	Other Non-Metallic Mineral Products	1.19	3.04	2.13	0.31	1.41	0.87
27	Basic Metals	0.84	-0.11	0.35	-2.26	-0.80	-1.52
28	Fabricated Metal Products	3.04	4.47	3.77	0.99	1.03	1.01
29	Machinery & Equipments	6.29	-1.38	2.29	2.75	-1.09	0.77
30	Office, Accounting & Computing Machinery	13.72	7.44	10.46	10.11	2.63	6.22
31	Electrical Machinery & Apparatus	1.99	3.94	2.98	0.66	-0.79	-0.09
32	Radio, T.V. & Communication Equipment	10.04	-3.51	2.88	4.33	-1.43	1.35
33	Medical, Precision & Optical Instruments	-2.47	8.80	3.14	-4.70	4.21	-0.24
34	Motor Vehicles, Trailers, etc	-1.66	14.56	6.33	1.38	4.96	3.20
35	Other Transport Equipment	2.77	-0.79	0.93	-0.71	-4.56	-2.70
36	Furniture, Manufacturing n.e.c	4.81	3.18	3.97	5.10	7.44	6.29
	Total Manufacturing	2.77	2.41	2.59	0.74	0.71	0.72

Source: NSSO Survey on Employment and Unemployment, (various years); and Annual Survey of Industries, various years.

organised segment of wearing apparel, dressing and dyeing of fur grew at a rate of almost 10.3 per cent per annum during 1983–2005. It grew at over 3.6 per cent in leather products and 3.5 per cent in rubber and plastic products. It appears that labour laws were not found a reason for not increasing employment in expanding industries nor a hurdle in reducing employment in others (Ghose 1994, Goldar 2002). Decline and increase in employment has, in fact, been found to have taken place primarily on considerations of market and technology (Papola 1994, 2008, Kannan and Raveendran 2009). The real cause of slowdown or decline in employment growth in organised manufacturing, thus, seems to lie in market conditions for products of individual industries, and not in restrictive labour laws.

7.15 A faster growth rate of employment in the informal or unorganised segment of manufacturing is often cited as an evidence of the discouraging effect of labour

legislation on expanding employment in the formal or organised sector. There is no doubt that employment has grown faster in the informal segment and its share has sharply increased over the years. Informal sector has always accounted for most of the manufacturing employment: share of organised sector in employment was 22.2 per cent in 1983–84. It declined to 18.5 per cent in 1999–2000 and further to 15.0 per cent in 2004–05 (Table 7.2). Two points need to be noted in this regard. First, a significant part of the decline in the share of the organised sector, and therefore, increase in that of the unorganised sector, has occurred due to a large decline in the employment in public sector, from 18.52 lakhs in 1991 to 11.30 lakhs in 2005. Private sector employment was 44.81 lakhs in 1991 and rose to a maximum of 52.39 lakhs in 1997, but declined continuously since then to reach a figure of 44.89 lakhs in 2005, a marginally higher figure than 1991. Obviously public sector reduced its

Table 7.2: Share of Organised Sector in Total Manufacturing Employment

NIC 98	Description	Organised Manufacturing Employment (ASI) as a % of Total Manufacturing Employment (NSSO)			
		1983	1993-94	1999-00	2004-05
15	Food Products & Beverages	30.33	24.40	23.07	24.03
16	Tobacco Products	13.46	11.96	12.08	10.38
17	Textile Products	21.91	15.77	18.21	13.64
18	Wearing Apparel, Dressing & Dyeing of fur	1.74	4.36	11.03	5.98
19	Leather Tanning & Dressing	10.82	14.46	12.07	10.97
20	Wood & Products of Wood & Cork	2.47	2.02	1.16	0.98
21	Paper & Paper Products	41.74	38.86	43.88	28.69
22	Publishing, Printing, etc.	34.17	24.96	12.78	11.26
23	Coke, Refined Petroleum Products	18.30	45.36	38.10	63.74
24	Chemicals & Chemical Products	45.80	40.38	46.00	37.57
25	Rubber & Plastic Products	53.98	32.37	27.05	37.88
26	Other Non-Metallic Mineral Products	15.50	14.14	12.72	11.87
27	Basic Metals	83.11	59.86	51.54	55.46
28	Fabricated Metal Products	21.07	17.08	11.81	11.81
29	Machinery & Equipments	43.73	30.64	37.10	31.67
30	Office, Accounting & Computing Machinery	75.23	53.64	36.47	32.39
31	Electrical Machinery & Apparatus	61.68	53.69	27.66	32.15
32	Radio, T.V. & Communication Equipment	70.94	40.57	56.58	51.33
33	Medical, Precision & Optical Instruments	80.21	62.92	85.13	39.16
34	Motor Vehicles, Trailers, etc	91.05	125.35	85.31	47.84
35	Other Transport Equipment	98.84	68.88	60.05	44.99
36	Furniture, Manufacturing n.e.c	2.42	2.49	4.00	3.89
	Total Manufacturing	22.21	18.02	18.54	14.98

Source: NSSO Survey on Employment and Unemployment, (various years); and *Annual Survey of Industries, various years*.

employment not out of the fear of labour laws, but primarily for reducing excess work force through privatisation and measures like VRS.

7.16 Second, growth of employment in any product line seems to be primarily influenced by industry specific factors and is found to operate equally in the organised and unorganised segments. It appears to have very little to do with labour laws which are applicable across industry groups. Thus, employment growth, when taking place, is found to occur in both the segments (Table 7.1). And so is the case with decline in employment. Where employment growth has been high, it has been so in both segments of industry, or even higher in organised than in unorganised. For example, in wearing apparel industry employment growth between 1983 and 2004-05 has been high at 4.11 percent per annum, employment in its organised segment has grown at over 10 percent per annum. Corresponding figures for manufacturing of furniture is 3.97 and 6.29 and leather products 3.55 and 3.62 for the same period. In most of the industry groups the growth rate of employment in total manufacturing is higher than in the organised sector. In some cases like textile, wood products, publishing, basic metal, electrical machinery, medical precision and other transport the growth rate in organised sector is negative while the total manufacturing employment is positive. Only in case of coke, refined petroleum products the growth rate is positive in the organised sector and negative in total manufacturing sector.

7.17 This pattern of employment growth in organised and unorganised segments of different industry groups suggests that it is the technological conditions of production that determine the extent to which employment will grow in one or the other segment. In industries which use intermediate products as inputs and, therefore, different stages of production can be carried out in different premises and locations, growth of output may take place more often through employment in the unorganised sector, as that would be more economical due to lower overhead and fixed costs. That seems to be happening in transport equipments, machinery, paper and wood products to a large extent. At the same time, in fast growing industries, even when it is possible and economical to use unorganised units for production,

organised employment also needs to grow possibly to cater to the requirements of large scale management, standardization, quality control and marketing. Fast overall growth has been accompanied by very high employment growth in the organised and moderate employment growth in the unorganised sector in textile products. And leather products and metal products seem to require growth of employment both in organised and unorganised segments for their overall output growth.

7.18 Thus, there seems little to substantiate the contention that the deceleration in employment growth and decline in employment elasticity in the organised industry has been the result of the highly protective labour legislation. Most segments of industry seem to have become inevitably more capital intensive in the wake of modernization and emergence of high technology segments. Entrepreneurs seem to resort to rational choices in technology in response to the demand in the domestic and international markets. The trend is likely to continue and even may accelerate with increasing globalization of the economy, as the compulsions of international competition are likely to further reduce the employment intensity, partially because of the need for cost reduction, but mostly for the reason of improving the quality of the products. Also, production may increasingly shift to the small enterprises in the unorganised sector, in many lines of production where technology allows separation of processes and stages of production. Thus, it is the rate of growth and technology rather than factors such as labour regulation that will determine the growth and structure of employment in manufacturing. Deregulation of employment conditions *ipso facto* is unlikely to increase the rate of employment growth, nor the share of the organised sector.

Major Issues in Labour Law Reforms

7.19 Yet, the Commission realises that no one can seriously dispute the need to change the system of labour regulation in Indian industry. These changes are necessary to adjust in the new competitive milieu that globalisation and liberalisation have imposed on local economies. There is certainly the need for a new legal framework that is attuned to the transformation in industrial relations that we are witnessing at the wake of the new phase in the

internationalisation of production and distribution with concomitant changes in the productive forces - technological and corporate structural changes, and changes in the character and composition of entrepreneurial and working classes. However, legal intervention in the name of adjustment to the 'facts of life' should not tantamount to the legitimisation of a total denial of the basic human and labour rights in the name of competitiveness; law must also help change the ugly facts of life for the working classes for the better. Further, the existing legal regulatory framework has historically supported labour market segmentation and dualism, leaving an immense majority of the working class unprotected. The growing informalisation and contractualisation of the work process would eventually deepen this dualism, if the framework is not properly amended, and also aimed "at reducing dualism in the regulatory regime" (Papola 2007).

7.20 In the view of this Commission, the major areas where labour law reforms are required are briefly outlined in the following sections

Multiple & Parallel Legislations

7.21 A repeated comment on the labour regulations in India is that there are far too many labour laws. In fact, there are too many laws for too few in the organised sector and too few for too many in the unorganised sector. Such multiplicity of labour laws has emerged because each piece of legislation was enacted as and when the need for the regulation of some segment or an aspect of the labour market arose. An integrated view does not appear to have been taken. As each piece of legislation was drafted independently of others (often copied from similar legislation in other countries), not only did the labour legislation proliferate but it also led to various definitions, often contradictory, of the same terms. Hence not to speak of the small employers, but even the relatively bigger ones and their workers find it tough and costly to find their way through the maze of labour legislation in India.

7.22 Many laws, in their zeal to provide for every conceivable aspect of the covered subject, tend to make so detailed provisions that they become difficult to implement and tend to be anachronistic because of technological and other changes at the workplace.

7.23 In India's federal constitution, labour related laws can be enacted both by the Central as well as the state governments, as it is a subject placed in the concurrent list of the constitution. Even where a Central law has 'occupied the field of legislation', flexibility and deference to federal concerns have been achieved in a number of ways. Many of the labour laws are centrally enacted but are implemented by the state governments, e.g. the Workmen's Compensation Act, 1923, the Factories Act, 1948. Effectively similar is the case with the Trade Unions Act, 1926 where the Registrar of Trade Unions is at the state level. Since even for unions with multi-state jurisdiction for which it is the appropriate government the Central Government has, instead of appointing its own registrar, delegated the power of registration of such unions to the registrar of the state where the office of the said union is located. Many of the laws have given the power to enforce the law to the 'appropriate government' as in the case of the Industrial Disputes Act 1947 and the Contract Labour Act, the two most discussed labour legislations.

7.24 Most state governments contribute to the volume and complexity of labour laws by enacting new state laws and amending the Central legislation. Employers' organisations normally complain that they have to maintain too many registers, file too many returns and face too many inspections. This increases the transaction cost of compliance with legal provisions. Not only are they confronted with a 'large' number of labour acts but also with conflicting connotation of the same words in different legislations.

Lack of Uniformity in Definitions

7.25 The Commission finds that many common terms have been defined differently in different statutes, the cognate definitions have not been taken into consideration. Definition of a 'worker' in some statutes such as Industrial Disputes Act, 1947 has been so confusing that it has generated a lot of litigation on this issue alone. Industrial Disputes Act and Employers' Liability Act use both these terms. All workmen are employees but not all employees are workmen. While the non-teaching employees of a university are workmen but teachers, as decided by the Supreme Court of India, are not workmen. A

Development Officer of Life Insurance Corporation of India is a workman but the medical representative of a pharmaceutical company is not.

7.26 Similarly, Child Labour (Prohibition and Regulation) Act applies to children up to the age of 14 years. That means youth above this age is legally in the labour market. But Trade Unions Act denies the right of membership of a trade union to a worker below the age of 18 years and the right of being an office bearer until the age of 21 years. A similar situation prevails in regard to terms like 'wages', 'industry', 'employee', 'contract labour' and so on. Even 'factory' has been defined differently in different Acts, namely, the Employees Provident Fund and Miscellaneous Provisions Act and the Factories Act.

Freedom to Fire & Exit

7.27 An aspect of labour regulation which has proved most contentious relates to job security. The ID Act, 1947 which stipulates elaborate mechanism for settlement of disputes through conciliation, arbitration and adjudication, also lays down procedures for making changes in the conditions of employment and separation of workers. Section 9-A requires that employers serve a notice of change in respect of matters relating to change in wages and allowances, provident fund, hours of work, leave and holidays (fourth schedule of the Act).

7.28 Under Chapter VA, which applies to enterprises employing 50 or more workers, employers are permitted to layoff workers after giving at least one month's notice and a retrenchment compensation that is equal to 15 days of average pay for each year of completed service and the appropriate government is notified. It may be reiterated here that the number filter used i. e. 50 excludes the whole of the unorganised sector from its ambit. It does not apply also to almost all supervisory staff through the wage filter because hardly any supervisor in the organised sector gets Rs 16000 or less.

7.29 For closure of a unit the Act provides for the procedure which includes a sixty-day notice and compensation package to workers similar to that under retrenchment.

7.30 For relatively larger establishments, currently defined as those with 100 or more workers, the Act, under Chapter VB provides, in addition to the conditions as laid under Chapter VA, that an employer is not permitted to layoff or retrench any worker or close down operations of the establishment without prior permission from the appropriate government. Permission is, however, deemed to have been granted by the appropriate government after 60 days if no communication is received from it by then.

7.31 In the on-going debate on labour flexibility and labour reforms, there has been focus on the issue of the employers' freedom to retrench workers. There does not seem to be much problem either to industry or to unions in the prescribed procedure and compensation to be paid to the workers in general. The industry has mainly objected to the provision of prior government permission before lay-off, retrenchment and closure, under Chapter V-B. This section was introduced in 1976 and made applicable to establishments employing 300 or more workers, but amended in 1982 to make it applicable to establishments employing 100 or more workers. It has been argued that this provision has made workforce adjustment practically impossible because government permission has been difficult to obtain.

7.32 As a result, it has a negative effect on investment, growth and, particularly, employment, in industry as the establishments have refrained from hiring workers because they would find it difficult to retrench them, if not required, in future. The removal of this section of workers, it is argued, will encourage enterprises to employ more labour in functioning enterprises and close down non-viable ones thus allowing them to release the tied up resources in non-performing assets and efficiently reallocate them to more productive uses and generate employment. As has been discussed in the previous section, the argument that the restrictions on retrenchment have negatively influenced expansion of industry and employment does not bear theoretical and empirical scrutiny. Also, permissions under Chapter VB have been liberally granted by the state governments in recent years. Still, it only sounds logical that an enterprise should have the freedom to employ only as much labour as it requires for its operations and should not be compelled to carry on burden of surplus labour. At the same time, there

should be adequate provision of notice and severance compensation in the cases of retrenchment. Similarly, if a business is no longer economically viable, its owner should have the freedom to close it down, with fair and legitimate provision for compensation to those affected, including the workers. This Commission considers that legal restrictions on separation, temporary or permanent, may be consensually relaxed to a considerable degree if the state agrees to become the employer of last resort and ensures provision of adequate social security for the contingently unemployed.

7.33 Section 9-A of the Act is also under attack as the argument goes that this provision “can delay or obstruct all worthwhile change in technology, workload, manning, shift work, etc.” (Johri 1996 quoted in Shyam Sundar 2005). It is contended that the trade unions misuse the provision and hamper the firm’s growth, which could have otherwise benefited from enhanced competitiveness by the introduction of necessary technological changes and new skills. Since only those changes that *adversely* affect the conditions of service of a workman comes under the ambit of this section after the Supreme Court ruling in 1973 in the case of Hindustan Lever Ltd v D.J. Bahadur, any hasty change in the section may reduce the workplace situation to that of unfettered managerial tyranny and abrogation of social dignity and human rights of workers. In fact, abrogation of Chapter VB and even chapter VA will not be as detrimental to the dignity and human rights of workers as the abrogation of section 9A. Any review of this section should therefore take into account the likely adverse impact of the changes contemplated on the dignity and human rights of workers at the workplace.

Contract Labour

7.34 Contract Labour is a significant and growing form of employment. It generally refers to workers engaged through an intermediary and is based on a triangular relationship between the user enterprises, the contractor including the sub contractor and the workers.

7.35 Contract Labour is usually employed to meet the short-term requirements of labour, caused by fluctuations in output, seasonal or order-induced, or to perform certain non- regular tasks in an enterprise. It is,

however, often used by enterprises to perform regular and perennial activities primarily to reduce real and transaction costs associated with job security e.g. separation process and pay and social security. Widespread prevalence of such practices prompted enactment of the Contract Labour (Regulation and Abolition) Act, 1970. The aim of the Act was regulation of contract labour where its use is justified in certain activities and for abolition of contract labour in situations which warrant continuous (perennial) employment. Under this Act the appropriate government has been empowered to prohibit contract labour “in any process, operation or other work in any establishment.” The Act also regulates employment of contract labour in all the activities carried out by contract labour. The Act defines a contractor and a principal employer. Every establishment that intends to employ contract workers through a contractor is required to register as a principal employer under the Act. And every contractor covered under the Act is expected to obtain a license as a labour contractor. Apart from the abolition of contract labour in certain circumstances, the main provisions of the Act relate to the regulation of conditions of work, health and welfare of contract labour.

7.36 The CLA has been criticised by industry associations in recent years on the plea that it brings in inflexibility in labour use in so far as an enterprise is unable to vary its workforce in accordance with the volume of work which often fluctuates sharply from season to season and year to year, even though the work may be considered to be part of its ‘perennial’ activities. They argue that the concept of ‘core’ activities has changed in the wake of globalised production systems and production based on orders.

7.37 Organisations of workers have also not been happy mainly because of the ineffectiveness in the implementation of the Act. Although they welcome its provisions, especially those relating to social security and working conditions, these are widely and rampantly violated. Given a general shift in the power balance in favour of employers, often strengthened by state policies in the name of attracting investments, there has also been laxity in enforcement of many labour laws. This has also added to the maneuverability of employers in the poor,

sometimes lack of, adherence to certain provisions especially relating to social security and working conditions. The net result has been an increase in the sense of vulnerability among the workers attested to by recent violent protests, riot-like, by such workers.

7.38 The incidence of contract labour in the country has increased significantly in recent decades which has been actively encouraged by some state governments while some others going about cautiously. In the organised factories sector in India, an estimate shows that the share of contract labour for India as a whole increased from about 12 per cent in 1985 to about 23 per cent in 2002 (Pages and Roy 2006). The increase in the share of contract labour varied across states, declining in very few such as Assam and Karnataka, while increasing in most others. Andhra Pradesh seems to have the fastest increase in contract labour, from 33.8 percent of factory employment in 1985 to 62 percent in 2002. As a percentage of employment in manufacturing, contract labour “increased from 7% in 1984 to 21.6% in 1998 in India. The latest available figures (2001) on the Census Sector (mainly establishments in the industry sector with more than 100 employees) show the huge prevalence of contract workers in Andhra Pradesh (64%), which passed a law in 2003 permitting temporary contract labour employment in what it calls ‘core’ activities of firms and widening the scope of non-core activities. The recent trends in the enforcement of the Contract Labour Act have shown very low and declining levels of inspection (as a proportion of prosecutions and convictions) under the Act in the central sphere” (Anant et al 2006).

7.39 Under the assumption that greater labour market flexibility would attract more investment in their regions, many state governments in recent years have amended the provisions of the Act to make the use of contract labour easier in many activities and industries, such as support service in manufacturing establishments and enterprises engaged in exports or located in Export Processing Zones. The most radical of such changes seem to have been made in Andhra Pradesh which eliminated the restrictions on use of contract labour in ‘non-core’ activities (defined through a description of tasks in the amendment) and provide for exemption to be granted in any activity or establishment or to any class of contractors

by the State Government, instead of by a Tripartite Advisory Board earlier, which stands abolished. While the Central law allows for abolition based on the duration of work, the Second National Commission on Labour (as well as state amendments) chose to focus on the functional nature of work to determine cases where the government can use its power to abolish contract labour.

7.40 It seems illogical not to allow an enterprise to employ workers on a non-regular, contract basis if the work that it carries out is not of a regular nature and varies in volume from time to time. At the same time, absence of restriction on the practice of contract labour may result in greater use of this form of employment by employers resulting in the denial of job security and other benefits to workers. The Commission therefore is of the opinion that while clearly specifying the ‘core’ or ‘perennial’ nature of work, there should be strict enforcement of the provisions relating to social security and working conditions.

Inspection System

7.41 In the campaign for labour reforms, it is often made out by industry associations and their supporters that inspection in regard to labour law violation is throttling the growth of industry and employment. That is why the system is often, and disparagingly, referred to as “Inspector Raj”. But, it is argued by some that the very term ‘Inspector Raj’ is meant to de-legitimise the system of inspection, which in itself is a well-intended and legitimate mechanism to ensure that the existing laws are properly implemented. It may also be mentioned in this context that India has ratified the ILO Convention No. 81- Labour Inspection Convention, 1947 concerning labour inspection in industry and commerce under which member countries are to provide sufficient number of inspectors and extend facilities to them to enforce the legal provisions and protection accorded under various labour laws.

7.42 The demand for doing away with labour inspection, in our view, is fraught with consequences far beyond the field of labour. In some states, there is already a demand from the powerful traders’ lobby to do away with sales tax inspection in the name of harassment and inspection. If the logic of such demands are extended to

other spheres we can very well imagine the power of the state to discharge its primary obligation of designing and enforcing various kinds of regulatory laws.

7.43 This Commission does recognise that while inspection is a well meaning procedure to ensure compliance of labour laws, there have always been legitimate complaints about its misuse resulting in harassment, bribery and corruption. Several states have in recent years relaxed the inspection system, by doing away with regular inspection and to have inspections only on complaints, prior permission of civil authorities, joint inspection etc. What is required is the reform of the enforcement mechanism to improve its effectiveness (e.g. through a system of incentives/disincentives) rather than 'throwing the baby with the bath water'.

7.44 A system of self-certification has already been instituted by some of the states. The trade unions have strongly opposed the replacement of the inspection system by self-certification, given the flagrant violation of labour laws by the employers. It is surprising but true that self-certification also has not found favour with employers, probably because penalty attached with defaults if discovered after self-certification are often more stringent than in the case of non-compliance found in regular inspections.

Minimum Wages

7.45 That there should be a statutorily supported floor wage is an accepted part of national labour policy. Minimum Wage Act 1948, aims to ensure it by making it obligatory to fix minimum wages in scheduled employment and make its non-payment illegal. Minimum wages are fixed by appropriate, Central or state governments. Not all employments but only scheduled employments are covered. Wages fixed often are below even the basic needs. Different wages have been fixed under different employments on a trade-specific or industry-specific basis in which a number of criteria are considered.

7.46 The Commission, having examined all aspects, came to the view that minimum wage has to be a part of the basic tenets of labour and economic policies. It is in favour of a need based national minimum wage that

should act as a floor wage below which no trade-specific or employment-specific minimum wage should be fixed. A need-based wage takes into account the calorific requirements of the worker and his/her family, other needs of clothing, housing and medical and social security. The Indian Labour Conference in its 15th session held in 1957 recommended certain norms for fixation/revision of minimum wages. These norms should be followed to fix the national minimum wage. Based on this norm, a national floor wage has been calculated and announced by the Ministry of Labour and Employment but this has not yet been given the statutory backing.

Issues of Industrial Relations Law

7.47 The Industrial relations law in India is characterized by the presence of the state at every stage of industrial relations, which has hampered the growth of bipartite joint decision making through collective bargaining between the parties directly involved in the production and industrial relations. Needless to say that collective bargaining in good faith is a *sine qua non* for healthy industrial relations. The moment a dispute is apprehended by conciliation officer, the latter is enjoined to take up conciliation proceedings. Conciliation normally succeeds in those cases where an agreement could be arrived at even without conciliation. If the conciliation fails, failure report is submitted to the government, which may refer the case to the industrial tribunal or a labour court as the case may warrant. This normally leads to a long litigation process to the detriment of the cause of the party that cannot afford to wait. The main direction of movement of an industrial dispute is towards adjudication rather than the bargaining table. The adjudication-led industrial dispute resolution has only overloaded the judicial system to the detriment of all concerned, especially the workers.

Numerical & Wage Thresholds & their Consequences

7.48 Labour laws in India, in general, have numerical thresholds which define their applicability. Of course, some of the labour laws do not have an employment limit for applicability. For instance, the Minimum Wages Act 1948 applies to all schedule employments/establishments. However, even in such a case employment level in the

industry is brought in; any industry that employs less than 1000 workers cannot find place in the schedule. But for chapters VA and VB the Industrial Disputes Act 1947 applies to certain establishments in the unorganised sector, which come within the purview of its definition of 'industry'. The Trade Unions Act applies to all enterprises in trade or industry. Even very small enterprises can have unionised workers who are members of an industry (not enterprise) level union.

7.49 Employment limit for applicability varies among different laws, The Motor Transport Workers Act 1961 and the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act 1979 have a lower limit of 5; the limit is 10 (with power) and 20 (without power) in the case of the Factories Act 1948; the limit is 10 in the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act 1996 and Payment of Gratuity Act, 1972; 20 under Contract Labour (Regulation and Abolition) Act 1970 and 100 in the case of the Industrial Employment (Standing Orders) Act 1946. There is also varied coverage of social security laws such as the ESI Act 1948, the Employees' Provident Fund Act 1952, Maternity Benefit Act 1961 and the Workmen's Compensation Act 1923.

7.50 Numerical threshold in most labour legislation has been quite problematic. For example the threshold of 10 workers with power and 20 workers without power could discourage enlargement of employment in small enterprises to that size in order to avoid application of Factories Act. It may, instead, lead to artificial fragmentation inflating the size of the so-called unorganised sector to the detriment of the welfare of workers at work and possibly productivity and economy of scale. Moreover, the number 10 filters out power-driven small sector employees from the welfare provisions of the Factories Act. Industrial Disputes Act 1947 provides three levels of protection to the workmen against layoffs, retrenchment and closure according to the size of the firms – no protection to those working in a firm employing less than 50 workmen, some protection to those working in industries employing more than 50 but less than 100 workmen and more protection to those employed in still larger firms.

7.51 Such number filters have been introduced presumably on the ground of the capacity to pay for the benefit provision or lack thereof of small enterprises. This leads to denial of crèche facility at work to a lot of women factory workers in enterprises employing 30 women or less. Shelter, rest room and lunch room facilities can be enjoyed in factories employing regularly more than one hundred and fifty workers. Obviously, the number has been decided subjectively. Labour rights enshrined in such statutes do not obviously take off from the needs of the workers but from the imagined or real lack of capacity to pay of the employers. Had the legislation been drafted from the point of view of the basic needs of workers at workplace, such needs of maternity and rest and the like could not have been denied to any one needing them and a proper mechanism of meeting those needs at workplace or nearby might have been designed and instituted.

7.52 Even minimum wages can be fixed only in scheduled employment employing more than one thousand workers. The numerical threshold or filter wherever used tends to deny even basic labour rights to some sections of the workforce. It can thus be argued that the number filter could be eschewed altogether and difficulties of the individual employers, if any on this count, may be taken care of by the state or civil society.

7.53 The wage filters for the applicability of labour laws result in other undesirable consequences. While a non-supervisory manual or technical worker getting several thousands of rupees per month as salary or wage is entitled to the labour rights conferred to workman under IDA, but a supervisor is denied the same rights the moment he or she receives more than sixteen hundred rupees per month as wages. Similarly, the Plantation Labour Act 1951 defines worker as persons receiving seven hundred and fifty rupees per month or less.

7.54 The Study Group on Labour Laws set up by the National Commission on Labour, 2002 (NCL 2002) had recommended an employment level of 50 persons (not merely workers, thus including managerial and supervisory staff within the limit) for coverage of existing labour laws. They proposed that a separate law, named small enterprises (employment relations) Act, may be

enacted or be included in the general law as a separate chapter, which would apply to enterprises below that limit. This limit was subsequently brought down to 19 workers by the Report of the National Commission on Labour in 2002, while proposing new legislation for the small establishments.

Limited Coverage & Poor Enforcement

7.55 As we have seen in earlier paras, the most important limitation of the existing labour regulation lies in its limited coverage and poor enforcement. Most laws apply only to relatively bigger establishments employing beyond a certain number, usually ten, workers. Thus, there is hardly any regulation of conditions of work and no provision for social security of any kind for the workers working in establishments employing less than ten workers. And they constitute an overwhelming majority – 92 per cent of all workers and 84 per cent of all wage earners. The degree of ‘flexibility’ for this category of workers is so high that they are left completely unprotected from the vagaries of the market and any arbitrary actions of the employers.

Labour Laws & the Unorganised Sector

7.56 The NCEUS had submitted a detailed and comprehensive *Report on Conditions of Work and Promotion of Livelihoods in the Unorganised Sector* (NCEUS 2007a). The Report found that almost all labour laws in India are circumscribed by the scope of their coverage, which could be defined in terms of the type of employment, type of employment relationship, nature and size of the ‘establishment’, including the number of workers, and area. There are very few laws that apply universally to all workers, whether in the organised or in the unorganised sectors. Other laws apply unequivocally to the organised sector. A third set of laws is applicable to some segments of the workers in the unorganised sector (in a few cases, they may also cover some segments of the organised sector). Overall, the unorganised sector workers are covered in a piece meal fashion in various legislations and lack comprehensive protection of the minimum conditions of work.

Central Laws for Unorganised Sector Workers

7.57 Central laws, which regulate conditions of work in the unorganised sector, fall into three groups. The first group applies generally to the unorganised sector e.g. the Equal Remuneration Act, 1976. The second group of laws applies to certain groups of workers in the unorganised sector and the scope of application is restricted by the nature of employment, or size of employment e.g., The Minimum Wages Act, 1948 and the Trade Unions Act, 1926. The third group of laws apply mainly to the organised sector workers (viz. factories, establishments, or enterprises employing 10 or more workers), but in certain cases, or by relaxing the employment criterion, these laws can (be made to) apply to some sections of workers in the unorganised sector e.g. Workmen’s Compensation Act, 1923, the Contract Labour (Regulation & Abolition) Act, 1970.

State Laws for Unorganised Sector Works

7.58 *State Laws:* There have been some attempts at the state level to regulate conditions of work in the unorganised sector and of agricultural workers. Important examples are the Kerala Agricultural Workers Act (1974), Tripura Agriculture Workers Act, 1986 and the Maharashtra Mathadi, Hamal and Other Manual Workers (Regulation of Employment and Welfare) Act, 1969. Kerala also has a number of Statutory Workers Welfare Funds and Boards to provide a number of social security benefits for the unorganised workers the functioning of which are closely monitored by unions as well as individual workers who by and large, have some level of basic education. The Minimum Wages Act is also observed for the same reason as the existence of a vigilant body of trade unions as well as workers. As we pointed out in our Report on Conditions of Work, only a very small proportion of unorganised workers in Kerala do not get a notional national minimum wage.

Experience of Implementation of Laws for the Unorganised Sector

7.59 The Commission’s above mentioned Report found that the implementation of the existing laws is abysmally poor. The main constraints on effective implementation of the existing laws appear to be the following: small size of the enforcement machinery in

relation to the large and dispersed workforce and inadequate infrastructure; almost exclusive focus on the organised sector; lack of voice for the unorganised workers and no participation of their representatives in ensuring effective implementation; and lack of or inadequate sensitivity among those responsible for implementation. Thus, the Report concluded that as far as the regulatory framework for ensuring minimum conditions of work for unorganised wage workers is concerned: (a) there is lack of comprehensive and appropriate regulation in India; and (b) even where regulations exist, there are inadequate and ineffective implementation mechanisms. The Report recommended that there is a need for a comprehensive legislation, which can provide a regulatory framework for minimum conditions of work for all workers.

Recommendations on Ensuring Minimum Conditions of Work & Social Security

7.60 The Commission's above mentioned Report contained two draft Bills to regulate the conditions of work of the unorganised workers as there are significant differences between the structure of the workforce in the agricultural and non-agricultural sectors. The level of existing laws to protect workers is varied across the two sectors, agricultural and non-agricultural. Further, the nature of the machinery for the implementation of the existing laws with respect to the agricultural and non-agricultural workers is separate. The Bills prescribe minimum conditions of work and introduction of a minimum social security for both agricultural and non-agricultural unorganised workers. On the minimum conditions of work for all unorganised workers, the Bill's key recommendations include:

- Eight –hour working day with half-hour break
- One paid day of rest per week
- National Minimum Wage for all employments not in the Minimum Wages Act.
- Piece-rate wage to equal time rate wage.
- Women's work to be remunerated on par
- Deferred payment of wages to attract penal interest
- Deductions in wages to attract fines
- Right to organize

- Non-discrimination
- Safety equipment and compensation for accident
- Protection from sexual harassment
- Provision of child-care and basic amenities at workplace

7.61 On a minimum social security for all unorganised workers, the Bills mandate the Central Government to formulate and notify a National Security Scheme for the agricultural and non-agricultural workers. The total outlay of the scheme proposed to cover all agricultural workers is estimated at Rs. 19,400 crores. Outlay for non-agricultural workers is estimated at Rs. 12,950 crores. The scheme should include package of National Minimum Social Security benefits whose minimum levels are prescribed as follows:

- Health benefits including
 - o Hospitalisation benefit for the worker and his/her family to the tune of Rs. 15,000 per year
 - o Sickness allowance for 15 days beyond 3 days of hospitalization @ Rs. 50 per day
 - o Maternity benefit to the extent of Rs. 1,000 to the worker/spouse of worker
- Life and disability cover for all the unorganised workers to include
 - o Life and disability insurance to the tune of Rs. 30,000 (natural death); Rs. 75,000 (accidental death or total permanent disability) and Rs. 37,500 (in case of partial permanent disability)
- Old age security in the form of:
 - o Pension of Rs. 200 per month to all BPL workers above the age of 60 years
 - o Provident Fund for other workers

7.62 The scheme is to be implemented within a period of five years. The organizational model is federal where the implementation will be the responsibility of the State Social Security and Welfare Board with the assistance of the Workers' Facilitation Centre at the grass root level, supervised and monitored by the National Social Security and Welfare Board.

7.63 The Commission has also carefully considered and prescribed a tripartite dispute resolution machinery, which in its view is likely to be more effective than the implementation machinery for the few existing laws that are in force for workers in the unorganised sector.

An Action Programme for the Unorganised Sector

7.64 The main recommendations of the Report have been summarized in the form of a 13-point Action Programme for the Sector framed under four groups viz., (i) protective measures for workers, (ii) a package for measures for the marginal and small farmers, (iii) measures to improve growth of the non-agricultural sector, and (iv) measures to expand employment and improve employability.

7.65 Detailed recommendations were made in the earlier theme-specific reports such as *Report on Social Security for Unorganised Workers* (NCEUS 2006), *Reports on Financing of Enterprises Creation of a National Fund for Unorganised Sector* (NCEUS 2007b), *A Special Programme for Marginal and Small Farmers* (NCEUS 2008b), *Report on Skill Formation and Employment Assurance in the Unorganised Sector* (NCEUS 2009b) and *Report on Growth Pole for the Unorganised Sector* (NCEUS 2009a). The need for a public employment programme has been taken up in this Report. While providing a macro economic picture of employment and unemployment in the country by focusing on the conditions in the informal economy, this Report has sought to weave together all these recommendations by arguing for an informal economy-centred perspective for an inclusive development.

Recommendations for Labour Law Reforms

Rationalisation & Consolidation of Labour Laws

7.66 As pointed out earlier there is an urgent need to consolidate the labour laws and bring uniformity in definitions of certain key terms like ‘employer’, ‘employee’, ‘establishment’, and ‘wages’. In this context, the Commission feels that there is a need to formulate a National Labour Code. There are already two draft codes

available. The first draft was formulated by the Study Group on Labour Law constituted by the First National Commission on Labour (FNCL). However, as the Draft Code failed to evoke requisite positive response from the social partners, the FNCL found a single Code to be impractical and even undesirable at that stage. While the FNCL agreed with the Study Group on the desirability of simplification and harmonisation of definitions, it felt that a feasible degree of simplification and uniformity may be achieved through the integration of “enactments which cover subjects having common objectives.”

7.67 Another serious attempt to simplify, rationalize, harmonize, and codify labour laws were made by the National Labour Law Association (NLLA) during the late 1980s and early 1990s. After several years of consultation among labour lawyers, employers, trade union leaders and labour administrators, the Association finally came out with a comprehensive but simple Draft Indian Labour Code, 1994. The approach of the NLLA in drafting the National Labour Code was almost the same as that of the Study Group of the FNCL on Labour Law.

7.68 The Second National Commission on Labour (SNCL) agreed with its own Study Group on labour law and large volume of opinion that the existing set of labour laws should be broadly grouped into four or five groups pertaining to (i) industrial relations, (ii) wages (iii) social security, (iv) safety and (v) welfare and working conditions. The SNCL, however, felt that, instead of separate laws, it may be advantageous to incorporate all the provisions relating various groups into a single law, with separate parts in respect of establishments employing less than 20 persons. The SNCL was of the view that the coverage of the term ‘worker’ should be the same in all groups of laws, subject to the stipulation that social security benefits must be available to all employees. Finally, the Commission opined, “... in an attempt to rationalize labour laws, we could, with advantage, group the existing labour laws into well-recognised functional groups. While the ultimate object must be to incorporate all such provisions in a comprehensive Code, such a codification may have to be done in stages and what we have proposed is hopefully the first step’.

7.69 NCEUS feels that the approach towards simplification, rationalisation and consolidation of labour laws in India taken by the Study Group of the FNLC and especially the one taken by the NLLA towards preparation of a single labour code are essentially unexceptionable. The labour code should also lay down a floor of substantive labour rights or standards such as minimum wages, maximum hours of work, minimum standards of safety and health at workplace and so on. This could be in the form of a basic law which would be applicable to all workers. Applicability of some of the other provisions may vary depending on the size of the establishments. The interest of labour in increasing labour standards beyond the statutory level may be best left to collective bargaining between the employer/employers and trade unions. Collective bargaining should be considered the main form of joint decision making in resolving interest disputes.

7.70 As the situation stands today, both labour and managements are demanding simplification, rationalisation and consolidation of labour laws. The Commission is of the view that it may now be feasible to strike a consensus on the design and contents of the Labour Code. The Commission, therefore, recommends that a National Labour Code may be formulated. If the consensus between social partners for whatsoever reasons does not materialise in a short time, the suggestions of the two NCLs may be followed to consolidate the labour laws into a few cognate groups such as 1. Labour Relations, 2. Wages, 3 Working Conditions, 4.Social Security, 5. Conditions of Work for Unorganised Labour, 6. Conditions of Work for Agriculture Labour, as a first step towards evolving a National Labour Code. In either case, the Code prepared by the NLLA may be taken as a model for further discussion.

Contract Labour

7.71 As seen earlier, there is widespread prevalence of non-compliance with various provisions of the CLA which provide for certain benefits to contract workers. In general, they are denied minimum wages and social security benefits. This situation cannot be allowed to continue. The Commission, therefore, feels that the Act may be amended so as to streamline regulation and make

it more effective. It recommends that all labour laws specifying conditions of work and social security may be made applicable to workers employed by or through contractors.

It must be ensured that:

- The contract workers are paid the minimum wages as prescribed by law, or wages paid to regular workers for similar work by the employing establishments, whichever is higher.
- Provision of regular, full and timely payment of wages as in Payment of Wages Act should be strictly complied with.
- Provisions of ESIA (Workmen's Compensation Act and Maternity Benefit Act where ESIA is not applicable) and Provident Fund Act are applied to the contract workers.
- All other safety and welfare provisions at the worksite as provided in the Act, are strictly adhered to.
- Responsibility of making the payment of contributions towards ESIS, PF etc and necessary payment of compensation under Workmen's Compensation Act lies with the principal employer.
- The principal employer's representative is present to ensure the compliance of payment of stipulated wages and compliance of the Payment of Wages Act, as provided under the Act.

7.72 For ensuring the above, existing provisions should be made explicit parts of the Contract Labour Act. Where they already exist, procedures and responsibilities for their implementation should be made clear. Where the proposed provisions do not exist, they may be added to the Act. In the case where these provisions exist in other legislations and are meant to be applied to contract labour also, necessary cross references should be made in the Contract Labour Act. For example, even if Minimum Wages Act was implied to be applicable to contract labour in scheduled activities, CLA should also specifically provide for it.

7.73 At the same time, the Commission feels that a more rational method of identifying activities which

require fluctuating volume of workers and therefore genuinely need contract workers should be evolved.

Industrial Disputes Act

7.74 This is the main legislation dealing with employment relations of the organised sector. Presently, every time there is a change proposed on working conditions, a 21 day's notice need to be given to all concerned including the government under section 9A. Disputes relating to notice of change under section 9A should be settled by collective bargaining or through resort to grievance settlement machinery and not through conciliation procedures which take a long time to conclude. A Grievance Settlement Machinery as provided under Chapter II-B section 9-C of the IDA needs to be put in place to deal with such issues.

7.75 The retrenchment compensation paid out at present is totally inadequate. In fact, it is amongst the lowest in the world. This is not fair to the workers. An increase in the retrenchment compensation has been recommended from time to time by various commissions/committees and has also been supported by the industry. The Commission recommends that retrenchment compensation should be enhanced at least to 45 days from the current 15 days. Moreover, provisions relating to providing notice and retrenchment compensation under chapter VA should be extended to all establishments covered by the law.

7.76 At the same time a scheme for unemployment insurance scheme for the formal workers should be introduced to which the employers should contribute. The ESIC has recently introduced an unemployment allowance for the first time under the Rajiv Gandhi Shramik Kalyan Yojna (Unemployment Allowance Scheme) launched on 1st April, 2005, granting an unemployment allowance of a maximum of six months duration during the entire service for a person who has been a member of the ESIC for at least five years. Based on this experience, the liability to pay the retrenchment compensation can be converted into an insurance-based, social security benefit. This would be in keeping with the shifts world-wide from employer liability to insurance-based social security. The Commission feels that if the said scheme is expanded in terms of coverage and the

benefits, it could serve the purpose of providing a safety net to the workers. Two alterations in the existing scheme could be considered for making it attractive enough to act as a safety net for the workers. These are: (i) The minimum period for which contribution in respect of the applicant should have been paid / payable may be reduced from five to one year; (ii) Period over which unemployment allowance will be payable is to be increased from six months to one year. In addition, as an attempt to establish a buffer to meet the enhanced cost, one time contribution may be sought from the employers to the scheme. On a preliminary examination, the Commission found that such an enhancement of coverage and benefit in the scheme is feasible and workable.

7.77 Based on these basic conditions, a decision on retrenchment may be taken through a process of collective bargaining for any other aspects not covered here but found important by both employers and employees. Once such a process has been gone through, the provision requiring prior permission under chapter VB would become redundant and hence be made inapplicable. The Commission feels that the above approach would provide a safety net to the workers while providing flexibility in labour use as dictated by production conditions to the employers as well.

Inspection System

7.78 Reduction in the number of laws and corresponding authorities should result in the reduction of number of inspections. Already the proposed amendment of 2005 (bill pending in Parliament) of the Labour Laws (Exemption from Furnishing Returns and Maintaining Registers by certain Establishments) Act 1988 proposes to reduce the number of returns, registers and records submitted to the government. This can extend to all establishments.

Minimum Wages

7.79 The Commission would like to reiterate the recommendation made in its earlier report (NCEUS, 2007a) that there should be a statutory National Minimum Wage which shall represent the floor level of wage for any employment in the country based on the norms such as the calorific requirements of the worker

and his/her family, other needs of clothing, housing and medical and social security recommended by ILC, 15th Session in 1957. This wage shall be applicable to all employments presently not covered under the Minimum Wages Act of the state concerned, and would be applicable to both wage workers and home workers. With respect to the employments covered under the Minimum Wages Act, the state government has to ensure that the minimum wage fixed under the Minimum Wages Act is not lower than the National Minimum Wage.

Labour Administration

7.80 The Commission feels that the best method of ensuring proper enforcement of labour laws is through the vigil of trade unions. Greater reliance on the collective bargaining process (social dialogue) should be placed on resolution of labour disputes. This would reduce the pressure on labour judiciary. At present more than 18,000 cases are pending in industrial tribunals-cum-labour courts. To reduce the backlog, the labour judiciary needs to be strengthened. Lok Adalats should also be encouraged to enable faster disposal of cases.

7.81 Stricter law enforcement cannot be achieved without strengthening the labour administrative machinery. In this context, the officers of the Labour

Department at the Centre, State & UT government levels should be given proper status, staff, infrastructural back up, and support facilities, like office equipment, library, transport and communication. A database should be built up on all aspects relating to industrial relations and the officers of the Labour Departments should have access to such database through computer connectivity. It is also necessary to improve the knowledge, skills and competence of the officers to enable them to win the confidence of the employers and workmen. Induction, training and periodical refresher courses are necessary to improve the efficiency and effectiveness of officers. As recommended by the SNCL, the Govt. may consider to create an All India Service for labour administration to provide professional experts in the field of labour administration in the labour departments, autonomous bodies and labour adjudications.

Conclusion

7.82 The Commission visualises the agenda for labour law reforms to be a broad-based one and not just limited to the issue of labour flexibility. Labour reforms will have to aim at providing a minimum set of conditions of work to all workers, a minimum level of social security, better and efficient labour administration machinery and a simple and fast-responsive grievance redressal machinery.

Appendix 7.1: A Note on Estimates of Effectiveness of Coverage of Important Labour Laws

An estimate revealing the effectiveness of the coverage of important labour laws for the year 1999-00 has been attempted. The third column in Table 7.1.1 gives estimates of the coverage of 10 different labour regulations by definition. In each of these regulations the applicability and the coverage of the provisions are defined. The applicability of different labour regulations vary and differences are in terms of enterprise size, sector or industry, employment status, locale (notified areas) and so on. In some regulations such as the Factories Act, the Industrial Disputes Act, Payment of Bonus Act, the Employees State Insurance Act, the Employees Provident Fund Act, Industrial Disputes Act and the Industrial Employment (Standing Order) Act, the provisions of the Act are applicable only to enterprises employing above a certain number of workers. For example, the Factories Act is applicable to all manufacturing enterprises employing 10 workers or more and using power or 20 workers or more without the use of power.

Similarly, the provisions in the Employees State Insurance Act, the Employees Provident Fund Act, Industrial Disputes Act and the Industrial Employment (Standing Order) Act are applicable only to regular employees and not to temporary or casual workers. Certain regulations such as the Minimum Wages Act and the Employees Provident Fund Act are applicable only to industries or processes or employments that are listed in a schedule attached to the Act, while the Shops and Establishments Act is applicable only in certain notified urban areas.

Taking all this into consideration, we have identified different criteria for applicability of the 10 labour regulations listed in Table 7.1.1. These criteria, as noted above, vary from regulation to regulation. By applying these criteria on unit level data on hired workers in the NSS surveys on employment and unemployment, estimates

for the number of workers covered under each of these 10 regulations in 1999-2000 have been obtained. The NSS estimates are then adjusted to worker-population estimates from the Census. Some caveats. The NSS does not make a distinction between enterprises using power and others not using power, hence the estimates for the coverage of Factories Act includes those enterprises.

In some regulations such as the Payment of Wages Act, Equal Remuneration Act and Payment of Bonus Act, the provisions are applicable only to workers receiving wages below a certain wage limit. Again due to data limitations, this wage limit has been ignored in the estimates provided in Table 7.1.1 Finally, in some regulations such as the Workmen's Compensation Act, the provisions are applicable only if a worker has completed a minimum period of 6 months in the job. Since data on duration of work in an enterprise is not available from the NSS, this condition too has been ignored in the Table.

The third column in Table 7.1.2 gives estimates of the number of workers actually covered by different regulations. These estimates are from different sources of the Ministry of Labour. The data are compiled by the Labour Bureau and generally pertain only to enterprises that have filed the returns as required under different laws. In the case of most of the regulations listed in Table 7.1.2, enforcement is the responsibility of the the state government. Thus, returns are filed by enterprises with the respective departments of the state governments. It should be noted here the record of filing returns has slackened in recent years following the initiation of economic reforms. Further, some states also fail to submit data to the compiling agency, viz. the Labour Bureau. Thus, some of the figures in column three of Table 7.1.2 are likely to be under-estimates of actual coverage of the regulations.

Table 7.1.1: Estimate of Workers Technically Covered under Important Regulations in India, 1999-2000

Sl No.	Name of the Act	Workers Covered by Law by Definition (lakhs)*		Percentage Share of Workers Covered by Regulations in	
				Total Workforce	Hired Workers
Conditions of Work					
1	Factories Act	120	**	3.0	6.6
2	Shops and Establishments Act	154		3.9	8.5
3	Weekly Holidays Act	100		2.5	5.5
Wages and Remuneration					
4	Minimum Wages Act	1511		38.1	83.3
5	Payment of Wages Act	416	***	10.5	22.9
6	Equal Remuneration Act	227		5.7	12.5
7	Payment of Bonus Act	208	***	5.2	11.4
Social Security					
8	Employees State Insurance Act	86	***	2.2	4.8
9	Employees Provident Fund Act	147		3.7	8.1
10	Workmen's Compensation Act	131	###	3.3	7.2

Source: * Estimated from unit level data of the NSS are only for hired workers.

Note: Workers covered under different regulations in this table are identified based on the geographic applicability, work status, enterprise size, sector and industry and so on from the NSS.

** Includes employment in enterprises having between 10 and 20 workers and not using power.

*** Includes workers receiving wages above the wage ceiling according to the Act.

Includes regular workers who have worked less than 6 months in the enterprise.

Table 7.1.2: Estimate of Workers Actually Covered under Important Regulations in India, 1999-2000

Sl. No.	Name of the Act	Workers Actually Covered by Law (lakhs)*		Percentage Share of Workers Covered by Regulations in		Effectiveness in Coverage (%)**
				Total Work force	Hired Workers	
1	Factories Act	88.2	#	2.2	4.9	73.5
2	Shops and Establishments Act	68.8	#	1.7	3.8	44.7
3	Plantation Labour Act	9.7	\$	0.2	0.5	35.6
4	Mines Act	6.4	@	0.2	0.4	87.4
5	Contract Labour Act	274.2	@	6.9	15.1	n.a
6	Minimum Wages Act	141.1	&	3.6	7.8	9.3
7	Employees State Insurance Act	75.7	##	1.9	4.2	87.5
8	Employees Provident Fund Act	263.0	@@	6.6	14.5	179.5
9	Workmen's Compensation Act	26.7	\$	0.7	1.5	20.3
10	Maternity Benefit Act	6.3	\$	0.2	0.3	16.1
11	Beedi Workers Act	32.1	@	0.8	1.8	92.0
12	Trade Unions Act	59.1	2	1.5	3.3	15.2

Source: ** is the ratio of workers actually covered by law to workers covered by definition.

Estimated from different sources of the Ministry of Labour and generally pertain to the employment in enterprises that have submitted returns under the particular Act:

Note: @ Annual Reports Ministry of Labour.

Indian Labour Statistics.

\$ Indian Labour Year Book.

& Report on the Functioning of the Minimum Wages Act.

ESI News Letter.

@@ EPF website: http://www.epfindia.nic.in/operational_stat.htm.

8

The Challenge of Skill Formation & Development

Introduction

8.1 The level of technology and the concomitant levels of skills directly determine productivity of labour. Improvement of skill enhances labour productivity even with the existing technology. Labour productivity determines the potential relative shares of both labour and capital. *Ceteris paribus* rise in labour productivity is a necessary condition for raising living standards of both wage and non-wage earners. Potential for better wages of workers and remuneration of the self-employed and the living standards of the working poor increase *pari passu* with increased productivity of labour. Moreover, higher incomes and wages of the working poor would contribute to increased aggregate effective demand for goods and services produced both in informal and formal sectors stimulating investment and growth in both the sectors. Thus, a multiplier effect may result leading to faster growth all across. This Commission accordingly views skill formation, its up-gradation and development as a core agenda for improving the living standards of those working in the informal economy.

8.2 Since skill formation, like education in general, is a public good, it is best provided by public action and investment. When provisioning of a public good is privatized, it is denatured leading to differential inclusion in favour of the rich. Working poor of the informal sector would be left high and dry. Market cannot take care of

skill formation of the informal sector since the working poor lack exchange entitlement. Inclusive skill formation entails public investment through appropriately designed institutions. Designing of such institutions and mechanisms of skill imparting should take into account the specifics of the informal sector needs. Public expenditure entailed by the public goods character of skill formation will ultimately result in enhancing effective demand of the workers and their families. This targeted approach, cross-cutting sectors and activities, gender and rural/urban locations could be one of the many ways to translate the coming demographic burden (discussed in Chapter 5) into a demographic dividend.

8.3 It is this perspective that formed the basis of the Commission's Report on Skill Formation and Employment Assurance in the Unorganised Sector. The report brought out various aspects of the need and also the ways to enlarge skill base of the economy in keeping with its large size, heterogeneity, and nature of the growth dynamics of the informal or unorganised sector. While recognizing the necessity of increasing the number of skilled persons across the economy, our report emphasized the need to take an informal sector-specific view of the issue because of the preponderance of employment in informal sector. Skill requirement of the informal sector therefore has to be visualized quite differently from the formal sector. The Commission has also laid out

in the report a detailed strategy and formulated a set of recommendations for revamping, expanding and re-orienting the existing skill development system in India. The present chapter summarises the main findings and recommendations of the Commission's earlier report.

Skill Formation, Productivity & Growth

8.4 The term 'skills' is used in the literature to refer to a wide range of attributes and to that extent there is no clear definition of a skilled worker. In practical terms, the term used is *marketable skill* which commonly refers to any skill/expertise/ability that has a market value, i.e. which has the potential of being utilised for generating income/employment. According to the National Sample Survey Organisation (NSSO), any marketable skill, whether acquired through formal or informal means, irrespective of whether it is being marketed or not, whether the intention is to market it or not, is considered a skill. In this sense, an inventory of such marketable skills provides information on the kinds of work that people can do, irrespective of whether it has been acquired formally or not.

8.5 In this analytical review of the linkages among skills, productivity and growth, while we retain the practical definition of 'marketable skills' for detailing the skill profile of the Indian workforce, the Commission recognizes the issue of skill acquisition in its broadest sense, i.e. to encompass education, pre-employment training, on-the-job training, continuous learning and retraining.

The Skills-Productivity-Growth Link

8.6 Skill development is important because of its contribution to enhancing productivity at the individual, industry and also national levels because of the complementarities that exist between physical capital and human capital on the one hand and between technology and human capital on the other. Fast changing knowledge economies call for new core competencies among all learners in the society. This effort to see a change in the skill mix in fast changing economies has been recognized by a number of countries such as South Korea, which has a Comprehensive Plan for Lifelong Education and Learning, and Singapore which has

introduced a National Continuing Education and Training Framework and a Lifelong Learning Endowment Fund.

8.7 Moreover, skill development is an area where typically the markets might not deliver optimum volumes of skills that economies need because the 'externalities' in skill and training may result in its 'under-provisioning' if it is left entirely to market forces. This argument is considered to be especially relevant in the small firm contexts. Therefore, even though there might be an explicit recognition about the need for skills enhancement, the issues of who will provide it, where it will be provided, who will bear the costs and so on become crucial considerations.

8.8 Further, skill development is considered as an area where public or collective institutions become necessary in view of its public good character and because of the externalities mentioned above. It would be necessary to conceive and design appropriate institutions and mechanisms to consider the sources of the basic stimuli that signal the extent of skill requirements, i.e., whether it is demand-led or supply-led. These are extremely important, particularly when we consider the financing aspect. Existing systems of formal skill provisioning in most developing countries are found to cover a very small proportion of enterprises and create large supply-demand mismatches, resulting in skill shortages even in the presence of significant unemployment. In the context of 'new' needs being perceived in a globalised economy, these skill shortages are considered to pose a potential hindrance to sustained economic growth. The issue of matching skills to markets has led to a call for dismantling existing systems of skill provisioning in many countries or an overhaul of TVET systems.

The Case of the Informal Sector

8.9 The issue of skills has to be contextualized in India in terms of the specific characteristics of its workforce which is predominantly informal and engaged in the unorganised sector. More than three-fifths of this workforce is self-employed while of the remaining who are regular or casual wage workers, only half are employed in the organised sector. Moreover, there is a very large proportion of youth in the population. In the years to

come as well, the bulk of employment is likely to be in the unorganised sector of the economy. The skill requirements of the unorganised sector have to be visualized quite differently from the organised sector.

8.10 The informal sector is highly heterogeneous, encompassing production units of different features and in a wide range of economic activities as well as people (i.e. workers, producers, employers) engaged in manufacturing or service activities under several types of employment relations and production arrangements. Given this diversity in the informal sector, the basic questions of skill-building and training (i.e. for whom, for what, what kind of training and how best it can be provided) have somewhat different dimensions. The Commission wishes to stress on this aspect, something that has been relatively neglected in the vast literature on the existing skill development systems in India.

8.11 If we begin with the motivations of people in the informal sector for training we will realise that they may not immediately recognise the need for further skills acquisition at all. They may have little idea about where to go even if the skills are seen to be required. The principal problems of poor literacy and numeracy often prevent informal sector workers from participating successfully in the conventional training programmes, even if they perceive the need for training. Training can also be prohibitive in terms of costs – both direct and indirect. Even token fees for the training can form a real barrier for participation in training. Working hours are often long and any time off from the productive work means loss of income, which most can not afford. This would affect the willingness of workers to join a training programme, even if it is relevant and easily accessible. The training needs of different segments of informal workers also have to be factored in. For example, the expansion of training provisioning needs to be equitable and gender sensitive. It can not be in the nature of stereotyped expansions or left entirely to the market alone. These issues, therefore, have to be kept in mind when designing training programmes for the informal sector.

8.12 Coming to the content of training, the competencies required in the informal sector in a vast range of activities including in the micro enterprise-based

production are a combination of ‘social competencies’, covering basic literacy and numeracy and the ability to seek out markets and negotiate along with the industry or trade based technical skills.

8.13 Another set of issues relates to the identification of relevant demand for training for informal sector workers. Expansion of skill up-gradation of informal sector workers needs to follow an assessment of social demand rather than existing market demand. Skill expansion in this sector will require the active participation of public agencies. We stress strongly that there is the need for public technical and vocational education establishments or other forms of collective organizations to play a definite role in finding new ways of teaching and learning to make them more relevant to the sector’s needs. Given the large numerical presence of self-employed workers this point is especially relevant. However, ample scope and opportunity may be given to the private and non-governmental actors, especially those working with ‘not-for-profit’ motive and who wish to provide expanded opportunities for training to such workers. This requires close co-ordination between the public agencies and private actors at all levels, including the decentralized ones, particularly at the district-level, in order to arrive at realistic assessments of the training needs of those in the unorganised sector on the one hand and that of different areas and sectors on the other.

8.14 Finally, even as we recognize the diversity of training needs, the varying perceptions and abilities to undertake training in the informal sector, it is necessary to assert that the skills that are perceived or found necessary in the informal sector have to be ‘formally’ provided as this involves processes of accreditation, certification and standardization that are essential for enhanced productivity, both in the informal and formal sectors. Certification becomes very essential in order to ensure minimum levels of skills with potentials to enhance productivity. Standardization of quality is essential to ensure effective marketing of the products of the sector. Skill up-gradation is essential, along with other inputs, to achieving standardization. The viability of large parts of the informal economy might itself be contingent on the existence and provision of formal, standardised skills.

8.15 Thus, for many in the informal sector, the acquisition of formal skills might be a necessary condition to gain entry into segments of the labour market that can potentially generate greater income or to be part of viable production systems that can potentially result in better livelihoods. The Commission's analysis strongly suggests that formal systems of skill imparting are essential for the informal sector.

Skill Profile of the Indian Workforce

8.16 For purposes of analysis different measurements of skills have been used in this chapter. The first is the level of education of the individual and the second is whether he/she underwent any form of vocational training. Vocational training is broadly defined as training that prepares an individual for a specific vocation or occupation. Vocational training may be formal or informal. Since acquisition of skills through non-formal training is, by definition unstructured, it is likely that the surveys on which our analysis is based underestimated the extent of non-formal skill acquisition, especially in certain sectors such as agriculture. This caveat should be borne in mind while using the results presented here.

8.17 There has been no special effort on the part of the Government to collect data on skills regularly as part of the administrative process. The main source of data at the national level is the Directorate General of Employment and Training (DGE&T), Ministry of Labour. The other sources of data on skills are the recent ad hoc surveys conducted by the National Sample Survey Organization (NSSO). The NSSO has asked questions relating to possession of skills in surveys of 1993-94, 1999-2000 and 2004-05. Each survey had a different scope, but taken together they give us some indication of the skill profile of the population.

8.18 Our analysis is based on the information regarding the level of marketable skills from both formal and informal sources, possessed by the people in India according to NSSO surveys and assessments of training through the formal vocational skill acquisition programmes.

Foundational Requirements: Literacy, Numeracy, Education

8.19 The levels of education of the population tell us about the generic and foundational skills residing in the population. In 2004-05 the share of 15 & above age-group population who were illiterates or educated below the primary level comprised 47 per cent. This share was higher among women (58 per cent) and in rural areas (over 50 per cent). While 13 per cent of the population had primary education, 16 per cent of them had middle level of education. The share of educated persons i.e. those with secondary and above education was higher at 24 per cent. The share of educated persons is higher as expected among men and in urban areas.

8.20 One can expect a certain pace of cohort-wise improvement. Even among the 15-29 years population in 2004-05, educational attainment was still very low, with 31 per cent of them having below primary level of education and 38 per cent of them with primary or middle level education only (Table 8.1).¹

8.21 The Commission in its 2007 Report on Working Conditions was of the firm view that low levels of education and skills have been one of the primary reasons for a hierarchy of work relationships, segmentation of the workforce and vulnerability. Improving the access of all sections of the population to quality education at least up to the secondary level, therefore, was highlighted as one of the most urgent developmental requirements.

Skill Base of Population in 1993-1994

8.22 The National Sample Survey on Employment and Unemployment, 50th Round (1993-94) canvassed a separate question on skill along with the questions on education and technical education. Analysis of this data reveals that nearly 90 per cent of the population above 15 years did not have any skills. Approximately 10 per cent of them reported as having skills (91.2 million). The proportion of skilled workers in the labour force thus, was very low. In rural areas, only about 10 per cent of the men (34.2 million) and 6.3 per cent of the women (20.3 million) possessed specific marketable (formal or

¹ There is some improvement over the years. In 1993-94, in the age group 15-29 years, the share of persons educated up to below primary was 45.2 per cent while 32 per cent had passed primary or middle classes.

Table 8.1 : Percentage of Persons (15 years & above and 15-29 years) by Educational Levels, Sex and Sector, 2004-2005

Category	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15 Years & Above									
Illiterate & Below Primary	44.5	67.7	56.0	19.7	35.6	27.1	36.7	58.3	47.2
Primary	15.3	10.8	13.1	12.6	12.1	12.3	14.4	11.2	12.8
Middle	19.1	11.3	15.3	19.4	16.8	18.2	19.2	12.9	16.2
Secondary & Above	21.1	10.2	15.7	48.3	35.6	42.3	29.7	17.6	23.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15 -29 Years									
Illiterate & Below Primary	27.8	47.7	37.6	13.7	20.1	16.6	23.2	39.6	31.0
Primary & Middle	43.9	33.8	38.9	37.6	33.2	35.6	41.8	33.6	37.9
Secondary	15.4	10.3	12.9	19.1	17.7	18.5	16.6	12.5	14.6
HS & Above	12.9	8.1	10.6	29.6	29.0	29.3	18.4	14.3	16.4
Technical	1.7	1.0	1.4	6.7	4.4	5.7	3.4	2.0	2.7
Total	100	100	100	100	100	100	100	100	100

Source: Computed from NSS unit level data 61st Round 2004 - 2005, Employment-Unemployment Survey.

non-formal) skills. The percentages reported are higher in urban areas, but still very low -- only 19.6 per cent for men (24.3 million) and 11.2 per cent for women (12.4 million). However, these only refer to the lower level skills and not those of professional and more qualified workers.

8.23 According to our categorization, in 1993-94, approximately 2 per cent of the population had predominantly formal skills, while 8.2 per cent of the population had predominantly informal skills. The corresponding shares among the labour force were 4.2 and 15.3 per cent.

Skill Base of Unemployed, 1999-2000

8.24 The NSSO Survey on Employment and Unemployment (1999-2000) had sought information on the skill levels of the unemployed only. The results showed that in rural areas, only 16.4 per cent of the male unemployed workers and 18.8 per cent of the female unemployed workers possessed specific marketable skills. The percentage for unemployed male workers in urban areas was almost identical to that in rural areas. However,

a significantly higher proportion of about 32 per cent of the female unemployed workers in the urban areas were reported to possess some skills. On the whole, more than 18 per cent of the unemployed possessed marketable skills.

Skills among the Youth in 2004-2005

8.25 The NSS Round 2004-05 collected information about the skill profile of the youth (15-29 years) as to whether they had or were undergoing any formal or non-formal training. Non-formal training includes both hereditary and other sources. Formal vocational training is the training that took place in educational and training institutions which followed a structured training programme and led to recognized certificates, diplomas or degrees.

8.26 It is estimated that, on the whole, only about 11.5 per cent of those in the age-group 15-29 have received (or were receiving) any training, whether formal or informal. Of those with informal or formal skill training, 33 per cent have received or were receiving formal training accounting for 11 million. A total of 3.9 million persons in this age group (about 1 per cent of the total) were

Table 8.2 : Skill Levels of Population in the Age Group 15 -29, 2004-05 (in million)

Skill	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Receiving formal training	1.1	0.5	1.5	1.7	0.8	2.4	2.7	1.2	3.9
Received formal training	1.5	1.2	2.7	2.6	1.8	4.4	4.1	3.1	7.1
Formal	2.6	1.7	4.3	4.2	2.6	6.8	6.8	4.3	11.1
Hereditary	5.9	3.1	9.0	1.5	0.7	2.2	7.4	3.8	11.2
Others	3.8	2.9	6.7	3.0	1.3	4.3	6.8	4.3	11.0
Informal	9.6	6.1	15.7	4.6	2.0	6.6	14.2	8.1	22.3
No training	88.3	88.9	177.3	40.4	36.1	76.5	128.7	125.0	253.7
Total	101.4	97.7	199.1	49.4	41.0	90.4	150.8	138.7	289.5

Source: ibid

receiving formal vocational training while about 2 per cent received formal vocational training, constituting about 3.8 per cent of the population with formal training.

8.27 Gender differences in skill training are strikingly significant, among both the informally as well as the formally trained. A lower proportion of women (8.9 per cent) than men (13.9 per cent) in both the rural and urban areas received vocational training (formal and informal). Formal skills were confined to 3.1 per cent women in this age group, compared to 4.5 per cent men. Considering the youth with informally acquired skills, 5.8 per cent of women had informal skills compared to 9.4 per cent of men (Table 8.2).²

8.28 Urban/rural location provides another element of difference. While only 2.1 per cent of the youth population had acquired (or was acquiring) formal skill training in rural areas, this percentage was much higher at 7.6 per cent in urban areas. This difference, however, does not persist with respect to informal skill acquisition (somewhat higher at 7.9 per cent of the youth population in rural areas, compared to 7.3 per cent in urban areas).

8.29 The pattern of skill acquisition varies considerably across the states as well. We have focused (Table 8.3) on formal skill acquisition. The largest share of the youth population with formal skills was in Kerala (15.5 per cent), followed by Maharashtra (8.3 per cent),

Tamil Nadu (7.6 per cent), Himachal (5.60 per cent) and Gujarat (4.7 per cent). The lowest incidence of formal training was in Bihar (0.5 per cent).

8.30 Among those trained or undergoing formal training in the country, Maharashtra accounted for 21.7 per cent share which was three times its share of India's population. However, Kerala accounted for 12.2 percent share that was four times the share of its population. Tamil Nadu had 11.3 per cent share in the skilled youth population that was two times its share in population. Gujarat and Andhra Pradesh too have a relatively higher share of skilled population in 15-29 age groups. Thus, the southern and western states form a continuous zone accounting for 63 per cent of the formally trained people in the country. These are primarily the states which have either more industries, a higher level of education, or a higher availability of training infrastructure and training capacity both in the public and private sectors. It must however be noted that even the highest achiever state (Kerala) has only 15 percent of its youth with some formal training. This points to the large uncovered gap in such a basic capability as some formal training in skills for the vast mass of the country's working poor. This yawning gap would be still wider if only the informal sector is considered. Such a situation calls for urgent attention to the need of adequate provisioning of formal skill training for the vast mass of the working poor subsisting in the informal sector.

² In 1993-94, approximately 3.4 per cent of persons in the age group of 15-29 years had predominantly formal skills while 12 per cent of population had predominantly informal skills. These cannot be strictly compared with 2004-2005 as the criteria of skill are different.

Table 8.3: Percentage of Persons in Age-group 15 - 29 Years with Formal Training among the States, (2004-2005)

State	Share (%) in Total Trained Persons	Percentage of Persons with Training in the Age Group
Kerala	12.2	15.5
Union Territories	1.3	12.6
Maharashtra	21.7	8.3
Tamil Nadu	11.3	7.6
Himachal Pradesh	1.0	5.6
Gujarat	6.6	4.7
Haryana	2.8	4.5
Delhi	1.7	4.1
Punjab	2.8	4.1
Uttaranchal	0.8	3.9
Chhattisgarh	2.0	3.5
Andhra Pradesh	6.6	3.2
Rajasthan	2.5	1.7
West Bengal	6.9	3.2
Karnataka	4.6	3.1
Madhya Pradesh	3.4	2.2
J&K	0.4	2.0
Orissa	1.9	1.9
Uttar Pradesh	6.9	1.7
Assam	0.8	1.4
North-east	0.4	1.3
Jharkhand	0.8	1.3
Bihar	0.8	0.5
Total	100.0	3.9

Source: *ibid*

Formal Training within Informal & Formal Sectors

8.31 The estimates of formal/organised and informal/unorganised sector workers as per 55th and 61st Rounds of NSSO Surveys show that more than 86 per cent of the employment was in the unorganised sector. Based on the definition of unorganised sector as proposed by it, the Commission estimated that, 135 million workers in the sector were in the age group 15-29. Among the 5.4 million workers who received formal training in this age group, 3.4 million, accounting for 63 per cent of the total

trained people, belonged to the unorganised sector. This shows that the organised sector is, for some reason, unable to absorb a majority of the formally trained youth who find a place in the unorganised sector. Given the characteristics of the formally trained at this point of time, these persons undoubtedly form an upper segment of the unorganised workforce.

8.32 Among the informally trained, 17 million were in the informal sector, compared to 1.9 million in the formal sector. As a percentage of the workforce, only 2.5 per cent of total unorganised sector workers had formal training while 12.5 per cent had informal training. In the formal sector, 11 per cent of the workers had formal training and another 10.4 per cent had informal training. It appears that a range of formal skills can be absorbed both in the upper segment of the informal sector as well as in the formal sector. However, due to stagnant or dwindling opportunities of employment in the formal sector, a majority of such workers seek and find refuge in the informal sector.

8.33 Among the youth in the age group 15-29 years about 53 per cent were workers, 3 per cent were unemployed, 20 per cent attended educational institutions and 24 per cent were non-workers. While 11.5 per cent of all the youth received vocational training, about 17 per cent of the unemployed and 16 per cent of the workers did so. Among the workers 22 per cent of the regular workers and 16 per cent of the self employed received training. Across employment status, formal training is the highest for regular workers, followed by the self-employed, and the lowest among the casually employed. Non-formal training is, however, the highest among the self-employed followed by the regularly employed and then the casually employed. It is noteworthy that the difference in informal training status across activity status is much smaller than formal training status (Table 8. 4).

8.34 One can see that this pattern replicates itself across both the informal and formal sectors, though the level of formal as well as overall training is higher in the organised sector.

8.35 The share of those with formal skills across industrial categories also indicates that there are certain industries, in both the unorganised and organised sectors,

Table 8.4: Percentage of Workers in Age-group 15 - 29 Years by Status of Vocational Training, & Sector of Employment, (2004-2005)

Usual Status	Formal	Non-formal	Total
Males			
Unorganised	2.6	12.9	15.4 (86.9)
Organised	10.1	10.7	20.8 (13.1)
Total	3.6	12.6	16.1 (100)
Females			
Unorganised	2.3	11.7	14.03 (91.5)
Organised	14.2	9.4	23.61 (8.5)
Total	3.3	11.5	14.84 (100)
Persons			
Unorganised	2.5	12.5	15.0 (88.4)
Organised	11.0	10.4	21.4 (11.6)
Total	3.5	12.2	15.7 (100)

Source: ibid

which absorb more formal training. This is evident by the fact that the share of the workers with formal skills is higher in Health & Social Work, Real Estate, Finance, Education and Public Administration. It is, however, interesting to note that the share of the formally trained in a few sectors such as Education, Public Administration and Construction is estimated as being higher in the unorganised sector. In the case of manufacturing, although formal skills are more prevalent in the organised sector,

workers with any skill are more prevalent in the unorganised sector. The analysis also shows that the share of those with formal skills is negligible in several sectors including agriculture and private households with employed persons.

8.36 Industries in which formal skills are low but the percentage of workforce with any skill is very high, such as manufacturing, construction, trade, hotels, and community and personal services are clearly those requiring prima facie expanded formal training systems.

Education & Skill Acquisition

8.37 Non-formal training is higher among those with lower levels of education (up to middle) and declines thereafter. On the other hand the proportion of formally trained persons is higher among the higher educated youth. The incidence of formal skill training was only about 0.2 per cent among the illiterate youth, rising to 17.5 per cent among those with graduation and above (Table 8. 5). The difference by gender in this pattern is not high, though men at all the levels of education tend to have a higher incidence of training.

8.38 74 per cent of the formally trained persons have higher secondary or higher levels of education while 78 per cent persons with informal skills have middle or lower level of education. The issue therefore is not that persons

Table 8.5: Percentage of Persons in 15 - 29 Years with Vocational Training by Education & Gender, 2004-2005

Educational Attainment Levels	Formal	Non-formal	Total (With Skill)	Formal	Non-formal	Total (With Skill)	Formal	Non-formal	Total (With Skill)
	Males			Females			Persons		
Illiterate & Below									
Primary	0.3	10.7	11.0	0.2	6.4	6.7	0.2	8.1	8.3
Primary	0.6	12.2	12.7	0.5	6.7	7.3	0.6	9.7	10.3
Middle	1.2	10.6	11.8	1.5	6.4	8.0	1.3	8.9	10.2
Secondary	4.1	8.1	12.2	3.2	5.0	8.2	3.7	6.8	10.6
Higher Secondary	9.8	5.6	15.4	7.3	3.5	10.8	8.7	4.7	13.5
Diploma/ Certificate	70.4	2.9	73.3	68.3	2.7	71.0	69.7	2.8	72.5
Graduates & Above	17.5	4.5	22.0	17.4	2.8	20.2	17.5	3.7	21.2
Total	4.5	9.4	13.9	3.1	5.8	8.9	3.8	7.7	11.5

Source: ibid

with low levels of education³ cannot acquire skills, but that our existing training systems are preferentially oriented towards providing formal training only to persons with higher levels of education. Most vocational training programmes, including the ITIs, require at least secondary or higher secondary levels of education to be able to enrol in the programme.

8.39 The education-skill nexus prevails both within the unorganised and organised sectors. But as one might expect, there are some differences. In the organised sector 94 per cent of formally trained workers had secondary or higher educational levels while in the unorganised sector, this percentage was lower at 77 per cent i.e. in the unorganised sector slightly less than a quarter of the formally trained workers had middle or lower education. This percentage was higher in the case of women among whom 30 per cent of the formally trained workers have middle or lower education (compared to a figure of about 20 per cent for male workers).

Trades & Formal Training

8.40 The NSSO provides information regarding the trades for which formal skill training has been provided to the persons in 15 - 29 years age group.

8.41 The most sought after field of formal vocational training was 'computer trades' (nearly 30 per cent). For men the next most popular trades were electrical and electronic (18.2 per cent), followed by mechanical engineering (12.3 per cent), driving (9.4 per cent), civil engineering (4.7 per cent), health and paramedical (4.3 per cent) and office and business work (4.1 per cent). Among women there was concentration of vocational training in computers followed by 'textile related trade' (22 per cent). The next most popular trades among women are 'health and paramedical' and 'office and business work'. While the overall preferences were not very different among men in rural and urban areas, the demand from rural females was a little different. Among female youth in rural areas, the first preference for vocational training was 'textile and related trades' (31 per cent), followed by 'computer trades' (21 per cent), and 'health and

paramedical trades' (10 per cent). Among urban women it was 'computer related trades' (39 per cent) followed by 'textile related' (18 per cent) and 'health and paramedical' trades (9 per cent).

8.42 An analysis of formal training among workers in the organised and unorganised sectors shows that there are a few trades where training is concentrated among both organised and unorganised sector workers. However, there are a handful of trades where the incidence of formal training is higher in the informal sector. These are: textile related trades; handicraft/artisan/cottage based production; and driving and motor mechanic work.

Poverty & Formal Skills

8.43 Poverty is undoubtedly a significant barrier in acquiring skills. A poor or very poor person has hardly any chance of acquiring formal skills. The incidence of training is fairly high only among the middle and high income groups. Our analysis shows that 7.5 per cent of the middle and 17.6 per cent of the high income groups were formally trained. Such a systematic association between income and training status is not the case with non-formal training which is fairly dispersed across the lower income groups. It is quite clear that while, on the one hand, any formal training system has to overcome the barrier posed by the economic status of the potential trainee, on the other hand, possession of informally acquired skills does not provide workers a way out of poverty.

Social Group & Formal Skills

8.44 The relationship between education levels and skills also varies across social groups. The share of persons with formal skills in the age group of 15-29 years increases along the socio-economic ladder- STs (1.4 percent), SCs (2.8 percent), OBCs (including Muslims) (3.5 percent) and Others (5.5 percent) in that order. Indeed, it is only the general caste categories for whom the incidence of training is higher than the average of 3.8 per cent. As far as informal skills are concerned, these are the highest among OBC persons (who form a large proportion of

³ However, in spite of the improvement in the educational profile, there has been a fall in the level of overall skills, during the 11 year period for all categories of education and sex except for higher secondary and above.

non-agricultural self-employed workers) and relatively the lowest among persons belonging to the general caste groups.

Training Providers & Types

8.45 The NSS survey also enquired into the institutes currently providing formal training. The Industrial Training Institutes (ITIs) and the Industrial Training Centres (ITCs) constitute the largest formal training base for about 7.88 lakhs persons. Vocational education schools offer around 2 lakhs training places. Institutions affiliated to the UGC and the polytechnics provided about 6.15 lakhs training places. About 2.2 lakhs persons were being trained in tailoring, embroidery and stitch craft. Other details are provided in Table 8.6. Altogether, 3.92 million persons were receiving formal training at the time of the survey.

8.46 The formally trained in both the formal or organised and informal or unorganised sectors have almost similar training background (Table 8.7). For example, of the formally trained in the unorganised sector 24.8 per cent come from the ITIs. The corresponding figure in the organised sector is 22.4 per cent. At the other end, 4.1 per cent and 3.8 per cent of the formally trained come from the vocational schools in the case of unorganised and organised sectors respectively. There are a few differences, however. A higher proportion of the trained workers in the organised sector are from the UGC institutions and the polytechnics. On the other hand, a higher proportion of those trained in tailoring, embroidery and stitch craft, handloom, and handicraft are in the unorganised sector.

8.47 The source of formal training is quite different for young men and women. While about 45 per cent of the formally trained men received their training from ITI/ITC, Polytechnics, or UGC recognized institutions, this percentage was only 15.8 for women. On the other hand, 27 per cent of women received training from such institutes as for tailoring, stitch craft and embroidery; nursing; medical training and teachers' training.

8.48 Ministry of Labour and Employment (MOLE) estimates that there are only 2.5-3 million vocational education and training places available in the country.

Our direct estimates are that about 3.8 million were undergoing formal training at the time of the survey. Given that the duration of such training is often less than a year, we have estimated the annual training capacity to be about 5 million. Out of these, very few places are for those with low levels of education. While, as shown earlier in this chapter, the overall formal skill levels are very low, the large numbers of people who drop out of schools, in particular, do not have the necessary education and skills to be productively employed in the economy. This is undoubtedly a very serious challenge to the current growth and development process.

Demand for Training

8.49 There is no systematic assessment of the demand for training in the unorganised sector of the economy. We have examined the recent characteristics of the workforce in the organised and unorganised sectors, including those as the average education level, technical education, formal and non-formal skills and growth rate of employment. Our primary focus is on the segments of the workforce which have comparatively low levels of education, and which are currently with or without (formal/non-formal) skills. Among these segments, those with a fairly high incidence of skills (predominantly non-formal) and rapid growth of employment are clearly those on which formal training initiatives would need to focus.

8.50 Our analysis identifies the following trades on a prima facie basis as those in which an intensive effort to expand training would be required: Construction Workers, Stone Cutters; Salesmen, Shop Assistants; Transport Equipment Operators; Tailors, Dress makers, Sewers, Upholsterers,; Production, Related; Carpenters, Cabinet, Related Wood Workers; Tobacco Preparers, Tobacco Product Makers; Hair Dressers, Barbers, Beauticians, Related; House Keeper, Matron, Steward, Cooks, Waiters, Bartenders; Stationary Engines, Equipment Operators, Material Handling, Loaders; Plumbers, Welders, (Sheet Metal, Structural, Metal Preparers), Erectors; Painters; Artists and Journalists. There are other sectors/segments which are also growing rapidly but where current levels of training are low. Examples of these trades are: Maids, Related House keeping Service; Professional Workers, Others; Building

Table 8.6: Percentage of Persons Receiving Formal Vocational Training in Age-group 15 - 29 Years by Institute of Training and Sex, 2004-2005

Institute of Training	Male	Female	Total	Male	Female	Total
	(in thousands)			(in per cent)		
ITI/ITC	704.31	84.60	788.91	26.1	6.9	20.1
Schools with Vocational Course	142.55	58.28	200.83	5.3	4.7	5.1
UGC	287.57	65.66	353.22	10.7	5.3	9.0
Polytechnics	219.27	44.34	263.61	8.1	3.6	6.7
Janshikshan	15.69	25.09	40.78	0.6	2.0	1.0
National Open	2.39	4.80	7.18	0.1	0.4	0.2
Hotel Management	28.35	3.13	31.48	1.1	0.3	0.8
Food Craft, Catering	13.34	0.27	13.60	0.5	0.0	0.3
SISI/ DIC	12.90	6.73	19.63	0.5	0.5	0.5
Fashion Technology Institutes	0.47	9.56	10.03	0.0	0.8	0.3
Tailoring, Embroidery, Stitch Craft	21.16	201.80	222.96	0.8	16.4	5.7
Nursing Institutes	35.01	59.58	94.59	1.3	4.9	2.4
Physiotherapy, Ophthalmic, Dental Institutes	7.19	10.85	18.05	0.3	0.9	0.5
Institute Diploma Pharmacy	41.81	7.49	49.29	1.5	0.6	1.3
Hospital & Medical Training Institutes	47.75	44.76	92.51	1.8	3.6	2.4
Nursery Teachers' Training Institutes	5.31	25.32	30.63	0.2	2.1	0.8
Training for Agricultural Extension	13.75	4.71	18.46	0.5	0.4	0.5
Carpet Weaving Centres	0.00	4.82	4.82	0.0	0.4	0.1
Handloom, Handicraft, KVIC	0.07	0.63	0.70	0.0	0.1	0.0
Recognised Motor Driving Schools	73.18	0.15	73.33	2.7	0.0	1.9
Institute for Secretariat Practices	5.85	26.27	32.11	0.2	2.1	0.8
Recognised Beautician Schools	0.00	28.97	28.97	0.0	2.4	0.7
Institutes run by Companies, Corporations	91.69	45.81	137.50	3.4	3.7	3.5
Institutes for Journalism, Mass Communication	32.98	2.46	35.44	1.2	0.2	0.9
Other Institutes	895.11	461.32	1356.43	33.2	37.6	34.6
Total (excluding Unspecified)	2697.69	1227.36	3925.05	100.0	100.0	100.0
Total	2709.37	1234.36	3943.73			

Note: Bold figures indicate sample size below 30.

Source: ibid

Table 8.7: Percentage of Workers Receiving/ Received Formal Vocational Training in Age-group 15 - 29 Years by Institute of Training & Sector, 2004-2005

Institute of Training	Unorganised	Organised	Total
ITI/ITC	24.8	22.4	23.9
Schools with Vocational Course	4.1	3.8	4.0
UGC	1.9	3.5	2.5
Polytechnics	2.3	5.5	3.5
Janshikshan	0.6	0.5	0.6
National Open	0.1	0.5	0.3
Hotel Management	0.1	0.5	0.3
Food Craft, Catering	0.5	0.3	0.4
SISI/ DIC	0.6	0.8	0.6
Fashion Technology Institutes	0.1	0.0	0.1
Tailoring, Embroidery, Stitch Craft	9.3	2.6	6.8
Nursing Institutes	1.5	3.7	2.3
Physiotherapy, Ophthalmic, Dental Institutes	0.1	0.4	0.2
Institute Diploma Pharmacy	0.8	0.9	0.8
Hospital & Medical Training Institutes	2.3	3.0	2.6
Nursery Teachers' Training Institutes	1.3	1.9	1.5
Training for Agricultural Extension	1.0	0.3	0.7
Carpet Weaving Centres	0.2	0.0	0.2
Handloom, Handicraft, KVIC	0.1	0.1	0.1
Recognised Motor Driving Schools	10.2	3.4	7.6
Institute for Secretariat Practices	0.5	1.7	0.9
Recognised Beautician Schools	1.0	0.2	0.7
Institutes run by Companies, Corporations	2.8	5.0	3.6
Institutes for Journalism, Mass Communication	0.2	0.5	0.3
Other Institutes	33.7	38.4	35.5
Total	100.0	100.0	100.0

Note: Bold figures indicate sample size below 30.

Source: ibid

Caretakers, Sweepers, Cleaners, Related. The potential/ need for training in these trades/sectors needs to be carefully examined.

Regional Dimensions of "Demographic Dividend"

8.51 A strong rationale for strengthening formal training capacity for the informal sector workers arises from the increasing requirement for skilled and semi-skilled labour from the rest of the world. India currently has a large emigrant worker population, of whom a large

percentage consists of such workers. It is anticipated that in the years to come, with the projected increase in India's labour force and the projected deficits in labour supply in developed regions/countries, Indian skilled/semi-skilled workers might play an increasingly significant role in meeting the international skill deficits.

8.52 The Commission, as part of its work, has projected the increase in age group wise labour force till the year 2017, at the state level. It is estimated that between 2006-07 and 2016-17, 52.9 percent of the total

increase in labour force and 81.6 percent of the increase in the young labour force (15-29 years) will be in the Eastern and Central states (M.P., Chhattisgarh, Jharkhand, Bihar, Uttar Pradesh, West Bengal, Orissa, Assam and the North Eastern states), while the Southern and Western states will contribute only 28.9 percent of the total increase in labour force and -2.6 percent to the increase in the young labour force. The details are given

in Table 8.8. It is to be noted that at present, 57.1 percent of the formal training capacity is in the latter group of states whereas the former group of states has only 28.1 percent of the training capacity. Even in the private and NGO sectors the training capacity follows a similar geographical pattern. It follows that a major effort will have to be made to boost training capacity in the lagging states, if the country is to reap the so-called demographic dividend.

Table 8.8: State-wise Total Labour Force & Increase in Labour Force & Training Capacity (percent)

Sl. No.	State	Share in Total Labour Force, 2006-07	Share in increase in Labour force (2006/07 - 2016/17)	Share in Young Labour Force (15-29 years), 2006-07	Share in Increase in Young Labour Force (15-29 years) 2006/07-2016/17	Share in Seating Capacity in ITI & ITC *
1	Andhra Pradesh	8.6	5.8	8.8	2.3	12.1
2	Assam	2.3	3.3	2.3	4.8	0.6
3	Bihar	6.4	7.1	6.3	15.4	3.1
4	Gujarat	5.3	5.7	5.5	3.1	8.2
5	Haryana	2.1	3.1	2.3	2.8	2.9
6	Karnataka	5.7	4.6	5.6	-0.3	9.8
7	Kerala	3.1	1.2	2.7	-2.4	6.7
8	MP	6.0	7.0	6.2	9.6	3.5
9	Maharashtra	10.3	9.7	10.0	3.6	11.3
10	Orissa	3.8	3.3	3.8	3.4	8.3
11	Punjab	2.4	2.1	2.5	-0.4	3.3
12	Rajasthan	5.8	7.6	6.3	12.7	5.7
13	Tamil Nadu	6.6	1.9	5.9	-8.9	9.0
14	UP	14.4	19.0	14.7	31.7	7.0
15	WB	7.0	5.6	7.0	5.0	1.5
16	Jharkhand	2.5	3.3	2.4	6.4	2.2
17	Chhattisgarh	2.3	2.2	2.2	3.3	1.3
18	Uttarakhand	0.9	1.0	0.9	0.9	0.9
19	Other NE States	1.2	2.0	1.2	2.0	0.5
20	Others	3.3	4.4	3.4	4.9	2.0
	Total - South & West (1+4+6+7+9+13)	39.6	28.9	38.5	-2.6	57.1
	Total - East & Centre (2+3+8+10+14+15+16+17+19)	46	52.9	46.2	81.6	28.1
	All States	100.0	100.0	100.0	100.0	100.0

* As on 31-12-2008

Source: Based on Commission's projections.

Training Targets

8.53 The share of persons having formal training is just 2.6 per cent of the labour force as per the NSS 2004-05 Survey. Based on the studies sponsored by the Commission which have assessed the demand for skill up-gradation and the review of VET experiences, the Commission would like this capacity of formal training to reach a level of 50 per cent of the labour force over the next three five year plans i.e. by 2021-22. The persons who would be targeted would include potential entrants into the labour force as well as the existing pool of workers whose skills are required to be upgraded. The Commission estimates that if by scaling up the skill development programmes, the annual training capacity can be increased from the present 15 million to 18 million by the beginning of the 12th plan and 25 million during the 13th Plan, the target of 50 per cent of the formally trained labour force can be achieved by 2021-22 or within three plan periods. Given the vast size of the untrained labour force as well as its other characteristics, this time frame is realistic.

8.54 The permanent training capacity in the system, however, may not need to be raised beyond 10-12 million workers in the medium term.

Selected International Experience

8.55 The Commission has reviewed international experiences of skill development and training delivery, keeping in view the issues that are important from a developing country context and more specifically from that of enterprises and workers in the unorganised sector. The review shows that the systems of skill development that exist internationally are primarily for the formal sector, as it is the economies dominated by the formal sector that have evolved such systems. In the countries of East Asia, which are characterized as state-led, demand driven systems, it is universalisation of basic education, enlarging the coverage of secondary education and developing a vibrant system of vocational education that laid the foundation for specifically targeting skills designed towards the workplace. Strengthening the educational system and universalizing access to it is thus an essential prerequisite for widespread skill development, particularly when the skill mix needs to change to accommodate the needs of greater integration with the knowledge economy.

8.56 While training systems might be supported by the government, especially in a situation where externalities limit the extent to which private initiative may be forthcoming, it is essential to tailor training to employment as much as possible. Evolving systems of apprenticeship and enterprise-based training that allow trainees to use their skills, with suitable incentives provided to employers as well as the trainees, is essential. Further, training needs assessment requires to be a joint exercise of those who need trained manpower (employers), those who need to be trained (workers) and those that evolve systems and frameworks (the state), as successful experiences demonstrate.

8.57 Further, in rapidly changing economies which also undergo industrial restructuring and retrenchment, large numbers of workers who hitherto belonged to the formal sector would become informal sector workers. Programmes of retraining such as those in China demonstrate that support from the government becomes essential to equip workers to make themselves available for the market by anticipating demand, which might not automatically take place.

8.58 Interesting experiences of programmes designed explicitly for the informal sector in different countries might offer guidelines by which a system for a country like India can be designed. For example, making the local area or district the focus of training programmes for employment as in China will enable matching of the needs of the people with that of the markets. Targeting training towards the poorest households and linking it up with employment in local areas is also a useful initiative for poor informal sector workers.

8.59 However, it needs to be kept in mind that the need for India to achieve a major turnaround in its skill profile in terms of the numbers being talked about means that it is possibly not any unique development experience that might be directly relevant or replicable. This is because the 'initial conditions' that obtain in India are very different from those that prevailed in either the OECD countries or the East Asian economies as they went about developing their skill and training systems. These consist, first and foremost, in the preponderance of the unorganised sector and informal employment in the economy, an abysmally low level of formal skill

availability even by the developing countries' standards, despite there exists a fairly elaborate structure of institutions, systems of education and training that caters to the educational and training needs of a small segment of the population. So while international experiences can provide ideas and perspectives on how to go about the formidable task of expanding the skill base of the economy substantially, the design of training structures and processes have to suit the specifics of the structure and dynamics of the economy.

System of Skill Development in India

8.60 In India, skill formation is broadly through general education as a provider of generic skills. Vocational education and training provide marketable industry specific skills for better employability. Other than general education, skill formation efforts consist of: (i) vocational education, (ii) vocational training, and (iii) sector specific programmes to address the issues of skill formation and enhancement. Within vocational training, we can distinguish between the formal and the informal streams both of which take place under the aegis of the government as well as the private and non-government agencies. Broadly, four systems cater to the training needs: the governmental formal training system, the governmental system that focuses exclusively on the informal sector, the non-governmental (private as well as NGO) network of formal training institutions and the non-governmental (mostly NGO-led) principally non-formal training programmes for the informal sector. While we have made the above categorization, the Commission recognizes that these are not watertight compartments.

Governmental Initiatives

Vocational Education

8.61 Vocational education remains within the broader school curriculum and involves provision of specific skills to increase the employability of the students on completion of formal education. Vocational training is especially for a particular trade or economic activity and is conducted outside the schooling system.

8.62 There are three categories of vocational education prevalent in India today: at the lower school

stage, at the class 10+2 stage and at the specialised level. The system of vocational education is administered by the Ministry of Human Resource Development. The Commission is of the view that the vocational education system suffers from deficiencies such as a low component of general education, poor linkages between the vocational education and general education streams and between the vocational education and vocational training streams. Since it creates the capability for acquiring skills, the system of general education itself, especially primary education in the context of informal sector, needs to be strengthened in the interests of skill acquisition. Education being a foundational skill, the focus on skills needs to start at the level of basic education through enlarging access and improving quality. It also needs to be noted that the link between vocational education, vocational training and actual employment is not really known, both due to the lack of actual link and due also to the paucity of information from the labour market. This has to be addressed adequately through evolving effective systems of feedback.

Vocational Training

8.63 Skill development programmes are undertaken by various ministries/departments, commissions, councils, autonomous bodies and institutions as well as public-private partnership bodies. The Ministry of Human Resource Development and the Ministry of Labour and Employment are the two major ministries responsible for skill development. Most of the initiatives by other ministries/departments are sectoral in nature and target-group oriented.

8.64 Most of these schemes and programmes are administered at the field level by the departments and agencies of the respective state governments or other non-government organisations identified for the purpose. The funds flow downwards and the state governments are usually assigned the task of implementing as well as monitoring the skill formation programmes on a routine basis. Alternatively, the Central Government departments entrust a number of their programmes directly to non-government organisations. This presently results in overlapping of efforts in the implementation of the programmes.

Formal Training Programmes

8.65 Formal vocational training system demands a minimum level of education, generally higher secondary in the case of the systems coordinated by the MHRD and middle school or high school in the case of the training systems coordinated by the MOLE, which automatically implies the exclusion of those with low levels of education. Polytechnics, under Ministry of Human Resource Development, offer diploma-level courses to meet training needs of manpower for industry at the supervisory level. The All India Council of Technical Education (AICTE) approves diploma programs in engineering and architecture, hotel management and catering technology and pharmacy. There are 1244 polytechnics run by HRD Ministry with a capacity of over 2.95 lakhs offering three-year diploma courses in various branches of engineering with an entry qualification of secondary education. Besides, there are 415 institutions for Diploma in Pharmacy, 63 for Hotel Management and 25 for Architecture.

8.66 The two flagship schemes of Directorate General for Employment & Training under Ministry of Labour and Employment are the Craftsmen Training Scheme (CTS) and the Apprenticeship Training Scheme (ATS). The CTS provides institutional training whereas ATS is a combination of institutional as well as on-the-job training in which trainees are exposed to real life industrial environment. The CTS is implemented through 1987 ITIs run by the state governments. In addition, 4847 ITCs in the private domain implement the CTS on the same pattern as ITIs.

8.67 The government's training/skill-building efforts, such as the ones outlined above, have not been directed explicitly towards the informal sector, or at least not towards the most vulnerable informal workers. This has also been emphasized by the Second National Commission on Labour, which notes that the structural characteristics of the informal sector require specific interventions that take on board these features. However, the district level studies conducted by the Commission show that a large number of people pass out of ITIs, i.e., those who receive formal training either start their own enterprises or go for wage employment in informal

sector. What is required are training schemes that take on board structural characteristics of the informal sector and target those at the lower ends. Some initiatives that have been targeted at the informal sector are discussed below.

Informal Government Training Programmes

8.68 The focus on skill development based explicitly on the needs of the informal sector exists through a range of programmes under the aegis of different ministries of the government. Schemes under the Ministry of Human Resource Development include Community Polytechnics, Jan Shikshan Sansthan (JSS) and National Institute of Open Schooling (NIOS) [Continuing Education and Distance Learning].

8.69 The Ministry of Labour and Employment launched the Skill Development Initiative (SDI) in 2007 as a five year project. During this period one million persons would be trained or their existing skills tested and certified under Modular Employable Skills (MES) framework. The objectives of the scheme are: (i) To provide vocational training to school leavers, existing workers, ITI graduates, etc. to improve their employability by optimally utilizing the infrastructure available in govt., private institutions and the industry. Existing skills of the persons can also be tested and certified under this scheme. (ii) To build capacity in the area of development of competency standards, course curricula, learning material and assessment standards in the country. The minimum age limit for persons to take part in the scheme is 14 years but there is no upper age limit.

8.70 The key features of the scheme are: (i) Demand driven short term training courses based on Modular Employable Skills (MES) decided in consultation with the industry. (ii) Central Government will facilitate and promote training while industry, private sector and state governments will train the persons. (iii) Optimum utilization of the existing infrastructure to make training cost effective. (iv) Flexible delivery mechanism (part time, weekends, full time, onsite/ offsite) to suit the needs of various target groups. (v) Different levels of programmes (Foundation level as well as skill up-gradation) to meet the demands of various target groups. (vi) The services of existing or retired faculty or guest faculty to be utilized.

(vii) Courses would also be available for persons having completed 5th standard. (viii) Testing & certification of skills acquired informally. (ix) Testing of skills of trainees by independent assessing bodies, which would not be involved in training delivery, to ensure that it is done impartially. (x) The essence of the scheme is in the certification that will be nationally and internationally recognized.

8.71 The training under SDI scheme will be provided by various VTPs under Central Government, state governments, public and private sectors and industrial establishments. VTPs will also be required to have close networking with the industry for immediate placement of the trainees.

8.72 A rate of training fee has been proposed. Candidates belonging to SC/ST categories and women will be given relaxation of 25 per cent in training fee. In order to motivate trainees to take the programme seriously, training fees of all those trainees who successfully complete the programme would be refunded to them. Training cost @ Rs 15/- per person per hour would be reimbursed to registered VTPs in respect of those successful persons who got training from it. VTPs would reimburse training fee to the successful candidates. A one time advance of Rs. 3.00 lakhs would be paid to each govt. ITI so that they can start courses under the SDI scheme. Testing fee would be Rs 500/800 which would be reimbursed to all the successful persons who have received training from the approved VTPs.

8.73 The Ministry of Micro, Small and Medium Enterprises (MSME) and its field institutions have been imparting training to the new entrants to the workforce over the last several decades aimed at developing skills, entrepreneurship and managerial capabilities. Some of these programmes are discussed below.

Entrepreneurship Development Programmes (EDP): Entrepreneurship Development Programmes are being organised by MSME-DIs as a regular training activity to educate the youth on various aspects that need to be taken into consideration while setting up small scale enterprises. The duration of these training programmes varies from 2 to 4 weeks with a training fee of Rs 100. Trainees

from weaker sections are given a stipend of Rs 500/- per trainee per month. No fee is charged from SC and ST candidates.

Entrepreneurship Skill Development Programmes (ESDP) : These programmes are targeted at training unskilled and semi-skilled workers employed in small-scale industrial units in new skills and/or upgrading their technical skills and knowledge. However, some freshly educated unemployed youth also participate for learning the traits/skills of various trades in order to find employment opportunities or for starting their own ventures. Efforts are made to organise tailor made programmes for the skill development of the socially disadvantaged groups, particularly in less developed areas. The target group for these programmes are SCs, STs, OBCs, women, minorities and other weaker sections, These programmes are also called the 'Out-reach Programmes' as they are conducted in the rural/less developed areas. Training programmes are of 6 weeks duration with a training fee of Rs 200. Trainees from weaker sections are given a stipend of Rs 500 per trainee per month. No fee is charged from SC and ST candidates.

8.74 As mentioned earlier, a number of other ministries/departments are also associated with skill development programmes which cater to the requirements of specific sectors and target groups. The details of such programmes are given in the Commission's Report on Skill Formation and Employment Assurance in the Unorganised Sector.

8.75 The above review demonstrates that the governmental system for skill development and training, while vast, is dispersed and characterised by overlaps and multiplicity of schemes. Further, while the existent system for the informal sector recognises some obvious needs of the sector such as certification of trainees, accreditation of trainers, broad basing and flexibility of the actual training imparted and linking training to jobs, it is not conceptualized, designed and implemented in a comprehensive and integrated manner. The Second National Commission on Labour faulted the existing systems on these scores which this Commission also seeks

to emphatically reiterate. Specifically, it is stressed that the formal and informal systems of skill development need to be integrated with competency based and flexible training allowing easy entry and exit to trainees at different points in their lifetime and being subject to formal systems of accreditation and certification.

8.76 At the level of implementation, the district level studies conducted by the Commission in Sehore, Allahabad, Shillong and Imphal (discussed in the following sections) show that in spite of all the above mentioned schemes, both formal and informal, having been in operation to different degrees in different places, the present facilities to impart skill development to workers are woefully inadequate. For example, in Allahabad, at present only 12 - 15 thousand workers are trained every year with the contribution of the government system being about 55 per cent, the private sector about 30 per cent, and the NGOs accounting for about 15 per cent of the workers. In Sehore, of an estimated 2.18 lakhs workers who require training, the existing capacity can cater only to about a few thousands.

Private Sector Initiatives for Skill Building

8.77 Private sector initiatives can be broadly categorised into four types: first, where private entrepreneurs or corporations establish training centres/institutes on a for-profit basis; second, where private corporations impart training to people who get absorbed as skilled workforce in their own units; third, where they enter into partnerships with public agencies and become the vehicles for training delivery and sometimes finance; fourth, where corporate houses set up public trusts or foundations with a development agenda to build the capacities of local communities to be self-reliant and create systems that utilize human and physical capital in a sustainable manner as an integral part of their 'corporate social responsibility' (CSR) mandate.

8.78 Examples of the second kind of initiative, where skilled manpower trained by a private company is absorbed within the company itself, are by companies such as Group 4 Securitas, Reliance and Kingfisher. Examples of the third kind of initiative, involving public-private partnerships, are of the Construction Industry Development Council (CIDC), which has been set up

jointly by the Planning Commission, Government of India and the Indian construction industry. There are also several initiatives where private foundations undertake training programmes as part of the corporate social responsibility of corporations. These include Ambuja Cement Foundation (ACF), 'Skills Development Initiative' of the Confederation of Indian Industry (CII), 'Livelihood Advancement Business School (LABS)' of Dr. Reddy's Foundation, which is the Corporate Social Responsibility wing of Dr. Reddy's Laboratories, a leading pharmaceutical company of India.

8.79 Private sector initiatives in skill building tend to be more linked to industry demand and hence avoid the wastages associated with supply-led initiatives. However, as has been pointed out earlier, these are likely to be forthcoming only in response to existing demand and where skilling is likely to have a direct link with profitability. For a large segment of workers in the informal sector, these considerations are not enough and their skilling needs go far beyond those that are likely to be addressed directly by the private sector. Some of these concerns are taken up through NGO interventions which are described below.

NGO Initiatives in Skill Building

8.80 NGO interventions range from offering NCVT approved formal ITI courses to a wide range of non-formal courses. Typically, NGOs devise their own curricula, provide their own training and have their own certification procedures. Very often, they have contacts with employers in the neighbouring areas which provide placements for the trainees. It is often also reported that placement in jobs for those trained are high and that trained workers earn higher wages. A review of the working of the activities of the major initiatives of NGOs reveals that there are two types of approaches being followed: (a) training only on basic or upgraded skills and then leave the trainees to seek wage employment or start their own enterprises, and (b) a 'holistic' package of skill development, basic entrepreneurship training and assistance in availing credit facilities etc. Some NGOs even 'handhold' the trainees for a certain period. Some of the major initiatives include Goodwill International Association based in Bangalore, Gram Vikas in Orissa,

Movement for Alternatives and Youth Awareness (MAYA Organic) based in Bangalore and Self Employed Women's Association (SEWA) based in Gujarat.

8.81 Thus, the non-government initiatives, whether by the private sector or by NGOs, address some of the deficiencies that exist in existing government-led systems. They provide training that is demand led with signals being provided by the market. However, as was noted earlier, going purely by market signals will not address a lot of problems of the informal sector. NGOs adopt a more integrated approach, with different emphasis across different kinds of organisations, but their interventions are too small and dispersed to make a significant difference in terms of the number of workers trained. Further, they suffer from the problems of inconsistent curriculum, lack of certification and standardisation that were noted earlier.

Critical Evaluation & Salient Proposals

8.82 Recently, the role and performance of the existing training system has been extensively reviewed and a number of proposals have been made to strengthen and expand the skill development system in the country. These proposals readily recognize the importance of skill development of the workers in the unorganised sector. However, they focus on the skill requirements of the organised sector. It is recognized that the present training system is supply oriented and is not linked to emerging demand (by the organised sector) for skilled manpower. The proposals, therefore, make various suggestions for strengthening and expanding the present vocational educational and training system in the country.

8.83 The main proposals which we have examined in our report have been made by the Planning Commission Task Force (subsequently incorporated in the Eleventh Plan) and the MOLE Draft Skill Development Policy. In addition, the National Knowledge Commission, the World Bank and the 2008-09 Union Budget also spelled out some proposals. The targets proposed in the various documents perused by the Commission are very general and range from about 15 million to 50 million annually. But in some cases only public sector training capacity or only organised sector worker coverage has been specified and there is a general lack of clarity on the extent of

coverage of the unorganised sector workers. In order to achieve the targets, these reports have mentioned various financing mechanisms and have different emphases on the respective roles of the public and private sectors. Besides, these reports have suggested different apex level organizational structures to address the VET requirements. From the Commission's point of view, a major lacuna of these reports is that they focus mainly on the needs of training for the organised sector workers (whether formal or informal) and do not assess the existing training systems for the unorganised sector workers. We find that our broad approach and some of our key recommendations as well are similar to that of the Second National Labour Commission. But we have gone beyond the recommendations of the Second National Labour Commission in several important respects.

District-level Studies of Skill Development System

8.84 The Commission's assessment of the needs of skill expansion in the informal sector makes it clear that these efforts will have to be sufficiently decentralized and grounded in smaller institutions at the local level. We have earlier shown that the institutional training capacity is extremely limited in precisely those regions where the demographic dividend is the highest. However, we have very little information on issues such as formal and informal training capacity, its quality, the felt-need for training among potential trainees, employers, service demanders, and ground level views on how to expand a training system which can cater to this segment. In order to fill this gap, the Commission made an attempt to independently evaluate the existing system of skill development at the district level by commissioning four district level studies in Sehore district of Madhya Pradesh, Allahabad district of Uttar Pradesh, East Khasi Hills district of Meghalaya and Imphal West District of Manipur.

8.85 The studies have emphasised the total inadequacy of training facilities for unorganised workers at the district level. Moreover, the quality of training also leaves much to be desired. The unorganised workers are acquiring training mainly through informal apprenticeships.

8.86 The studies have accordingly called for setting up training facilities at a decentralized level, at least at the block level, to enable such workers to access them. It is felt that the NGOs, PRIs and private sector should be actively associated if the desired expansion in training facilities is to be achieved. In respect of the quality of training, it is felt that skills being imparted through the existing informal system should be certified and linkages between formal and informal institutions should be established.

8.87 The studies have stressed need for identification of master trainers at village, block and district levels, incentivising their training and linking them with formal training institutions. There is a felt need for a well designed training of trainers programme at formal institutions where these master craftsmen could be trained. Provision could be made for a one time grant to master trainers to upgrade their workshops.

8.88 The studies have also called for a nodal agency at the district level to coordinate, implement, evaluate and follow up the skill development programmes. One important recommendation emerging from the studies is that financial support may be provided to subsidise wage losses of unorganised sector workers during their training. As a part of the training strategy soft skills like marketing, communication, attitudinal and behavioural skills should also be imparted. A strategy may be formulated for marketing of the produce of the unorganised sector entrepreneurs, especially the rural entrepreneurs.

8.89 The two studies on the North Eastern region have also suggested setting up of training institutions in specific areas of interest to the two states.

8.90 It thus emerges from these studies that the need for upgrading skills is felt widely both among the rural and urban workforce. For women, even more than men, it is important to establish training facilities which can upgrade skills close to their door-step in a flexible manner. As far as possible, skill development should be linked to certification (formal skills) and improved livelihoods/jobs. The de-centralised training facilities can emerge in alternative ways but their development may need to be encouraged by a district nodal agency, which will also serve as a labour market information centre, keeping

records of potential trainees and trainers. The district agency would also be the appropriate body to do a need/demand assessment in order to guide skill expansion in the area. The nature of this nodal agency could be state specific and could link with the state level coordinating institution.

Recent Government Initiatives

8.91 We note that, following the recommendations of different reports mentioned earlier, Government of India has recently initiated a major restructuring of the skill development system in the country. The Prime Minister's National Council on Skill Development (NCSD) has been set up for giving policy directions and periodic review of efforts to address the issue of skill development by expansion of training capacity in a mission mode. The council will be responsible for vision setting and laying down broad strategies for skill development.

8.92 The council will be supported by a National Skill Development Coordination Board (NSDCB) which will be charged with the coordination and harmonisation of the Government's initiatives for skill development spread across the seventeen central ministries and state governments with the initiatives of the National Skill Development Corporation (NSDC). The Board has been set up in the Planning Commission under its Deputy Chairperson. The NSDCB has thus emerged as the main body in the three tier structure put into place by Government of India which will oversee its skill development policies and bring about an accelerated growth of formal skill acquisition through the public and private sectors.

8.93 The National Skill Development Corporation has been created by the Ministry of Finance as a not-for-profit corporation to support the expansion of private sector initiatives in skill development. The principal function of the corporation will be to provide financial support to private sector initiatives in skill development.

8.94 Recent changes introduced by the Government have been with the purpose of providing greater coherence and coordination to skill development policies and programmes and to provide finance to worthy private sector initiatives. The greater challenge is to assess the

“demand” and to make the right kind of training available at the grass-roots where informal sector workers live and work. The findings of the district-level studies sponsored by the Commission emphasize the importance of a de-centralised training system going down to the district and the block level. This approach is in consonance with the recommendations of the Second National Commission for Labour calling for block level vocational educational institutions.

Recommendations

8.95 The Commission, in its report on Skill Formation & Employment Assurance in the Unorganised Sector, has put forward a number of recommendations for building a skill development and training system that explicitly focuses on the expansion of VET for the informal sector workers who generally also have low levels of education. Some of the more important recommendations are discussed below.

Organisational Structure

8.96 Given the enormity of the task and the deficiencies in the present institutional infrastructure for skill development in the unorganised sector, the Commission is of the view that the NSDCB should launch a *National Mission for Development of Skills in the Unorganised Sector*, to support skill development in the unorganised sector. Apart from coordinating the expansion of skill development in the unorganised sector in a mission mode, a certain quantum of funds should be at the disposal of the Mission to support skill development in a responsive mode, focusing upon strengthening of institutional infrastructure, creation of labour market information systems etc. in the manner that is detailed below.

8.97 The main purpose of the NSDC, in the Commission's view, should be to provide financial support to NGOs and other non-profit organizations engaged in the training of informal sector workers, while the financial needs of for-profit training organizations should be catered to by banks and other existing financial institutions.

Vocational Training

8.98 The Commission views the SDI as a commendable initiative under which there is a positive effort to expand relevant skill training for school drop-

outs and back this up through the development of modular courses, registration of vocational training providers and certification by third party agencies. However, these developments are still limited and are within the framework of a national scheme. There is therefore the need for a national level structure that can provide the backbone to national skill development in lagging areas and address the needs of course development, recognition and accreditation of training providers, and certification. The Commission is of the view that the National Council for Vocational Training (NCVT) may be identified as the primary agency charged with setting of standards, certification of skills and accreditation of providers for all certificate based training for which the minimum eligibility is less than higher secondary education. Alternatively, a new body with well defined statutory responsibilities may be charged with these functions.

8.99 The Commission has also recommended the establishment of a state level structure that will perform the same coordinating functions at the state level which the NSDCB will perform at the national level, within the overall framework and guidelines provided by the Prime Minister's Council. This body should be fully responsible for making and implementing a training plan at the state level and coordinating and monitoring skill and training initiatives in the state. The State Councils for Vocational Training (SCVTs) should have full responsibility for evolving a framework for curricula development and a certification framework to meet the local needs.

8.100 The expansion of skill development involving millions of people will require coordinated action between the public and private agencies at the local level. The Commission is, therefore, of the view that the skill development programmes for the unorganised sector should be operationalised by a District Skill Development Council (DSDC) which would be the most crucial link in the entire skill development framework. The DSDC will function under the District Planning Committee or Zilla Parishad and will be managed by an executive committee consisting of the major stakeholders in the skills arena at the district level. The main executive of the district skill development agency should be a professional who is devoted full-time to the activities of the agency. The Commission envisages that the DSDC

will be staffed with competent professionals and technical persons. In order to give greater operational flexibility to the DSDCs, they could be registered as societies or not-for-profit companies.

Vocational Education

8.101 At the apex level, the Ministry of Human Resource Development will continue to coordinate the development of vocational education in the country. However at the district level, the DSDC may be given the task of dovetailing VE with training requirements. As already discussed, the capacity for vocational education needs to be increased significantly. This will have to be accompanied by making the course content more responsive to the market demand. The industry associations may be associated with formulation and revision of course curricula. Links should be established between the vocational education stream and school education as well as higher education. Students should be able to move between vocational and general education streams by providing them with multiple entry and exit options. Public expenditure on vocational education needs to be increased significantly. The NSDCB can perform the task of coordination between vocational education and vocational training components. The states may design their own variants taking regional specifics into account.

Expansion of Skill Development

8.102 The expansion of skill development programmes for the unorganised workers have to be formulated through a combination of public and private initiatives conceived in a broad sense. In the public sector, expansion of training can be through rationalisation, consolidation, strengthening and expansion of the existing schemes that have been functional at the district level for some time now by undertaking new initiatives. Initiatives such as the Cluster Development Programme of the MSME would need to be integrated with such a programme for skill development.

Consolidation and Strengthening of Training in the Existing Livelihood and Social Sector Programmes

8.103 A basic need of the training system would be to link skill development with livelihood promotion. Skill

development for the unorganised sector workers has to be seen as an integral part of the livelihood support which includes a number of elements including identification of the activities, credit and technological support, capacity building and backward/forward linkages.

8.104 As shown earlier in this chapter, the governmental system is a very large source of skill training for unorganised sector workers. Almost all large government livelihood promotion and developmental programmes have a training component. The stress is on providing short duration functional training. The advantage of this training is that it is linked to a specific livelihood based activity being undertaken or likely to be undertaken by the individual often with different types of assistance/handholding. Government programmes rely on formal as well as informal trainers. Moreover, these programmes also reflect PPP mode as training in a number of instances is imparted by NGOs / private providers.

8.105 Further, there are many other livelihood promotion activities which are being carried out with the support of banks and NGOs. Prominent among them are the micro-finance based activities supported through the NABARD-SHG linkage programme. These programmes also support training initiatives.

8.106 The main problems associated with these training programmes are that they are not linked to any standards; their quality is highly variable; there is no standard curriculum; and usually there is no certification. The Commission has recommended that the quality of training imparted under them should be improved and standardized and these schemes be integrated with the training plan of the DSDC. These schemes should also involve formal certification procedures to ensure standardization and minimum standards of quality. Over time, training under these programmes should be linked to the MES framework.

Skill Development Initiative (SDI) & Entrepreneurship Skill Development Programmes (ESDP)

8.107 The Modular Employable Skills (MES) framework under SDI of the MOLE offers many elements which are appropriate to the development of training

initiatives for the informal sector. Under the SDI, workers can be trained in formal institutions, or informally trained workers could take up an examination and be certified. Such workers, as discussed above, could be offered facilities to go through a “finishing school” before taking such an examination. Since the SDI and the MES framework can be adopted for training of all informal sector workers, with appropriate care, the Commission is of the view that the SDI should be gradually strengthened and targets under the scheme significantly increased along with adequate budgetary allocations. Larger number of training providers and assessing bodies should be brought under its ambit.

8.108 The Ministry of Micro, Small and Medium Enterprises is focusing on Entrepreneurship Skill Development Programmes (ESDP) in the unorganised sector conducted through Micro, Small and Medium Enterprises-Development Institutions (MSME-DIs). Emphasis is on conducting ‘out-reach’ training programmes in backward areas, particularly for weaker sections of the society. The Commission is of the view that this programme should be steadily expanded as it has the potential to provide relevant skills to a large number of target group beneficiaries in the unorganised sector.

Provision of Formal Training to Informally Trained Workers

8.109 The largest system of skill development for unorganised workers that is in vogue today is the informal training system in which workers learn some skills on the job from skilled workers/master craftsmen. The main advantage of the system is that the workers combine learning with earning. A major potential constraint in this system is the static skill level of the worker with limited adaptations in a world of changing technologies/demand. No ‘schooling’ of the skilled worker is possible and he/she only learns while doing.

8.110 In order to address the problems with the existing informal apprenticeship systems at the district level, attention has to be given to the issue of awareness and incentives to those who impart training (master craftsmen) as well as those who receive training (apprentices). First, it is essential that the formal certification systems being developed under the SDI are

able to reach out to the informal training system through the district level structure suggested earlier, or through specific schemes such as the SDI, the ESDP etc. The formal apprenticeship can be supplemented by including a component of the specific training, for instance, on technical and theoretical skills. There can be incentives for the apprenticeships in the form of reimbursement of fees charged on completion of the course, low or no fees charged for those from SC/ST backgrounds, and so on. Second, it is necessary to continuously upgrade the skills of master craftsmen/trainers themselves in order to be able to cope with changing technology, fashion and shifting markets. This will need to involve sectoral initiatives that combine skill up-gradation at a higher level with other sector-specific interventions such as the technological up-gradation and initiatives for scale expansion under cluster development programmes. Some of these issues are dealt with by the SDI. But the Commission has recommended a full-fledged programme for taking informal training to the next level, while providing some form of employment assurance during training to the trainee.

Focused Approach towards Improvement in Clusters

8.111 The Commission has made specific recommendations with regard to dovetailing of the existing cluster development programmes in India and the proposed district level skill agency. First, it has to be recognized that a process of skill development focused at the district level has to explicitly take into account the needs of clusters in the district. Effective partnership needs to be established between the DSDC and all clusters in the district. Second, the methodology evolved by the UNIDO and the MSME’s cluster initiatives in generating the conditions for concerted joint action among enterprises, recognizing interdependencies between them and the advantages of joint initiatives, need to be expanded into the skills and training arena. Such initiatives are already in place for marketing and financing and can be easily extended to skills.

8.112 Third, there are several skill development programmes that are organised by leading institutions that serve the needs of the clusters e.g. leather industry. Many of these initiatives cater to limited number of trainees and are often targeted at higher ends of the

training spectrum. Hence, district level subsidized institutions may be set up under the DSDC in collaboration with cluster actors to train lower level workers in these sectors.

8.113 Fourth, the incentive structures and costs to be incurred by potential trainees have to take into consideration differences between clusters, i.e., artisan, microenterprise based or mixed firm. For example, purely artisan clusters will require co-ordination among artisans and recognition or education about the benefits of training, but costs will have to be borne by state agencies under one of the programmes being undertaken by them. Expenses and infrastructure for training of trainers can come under cluster based artisan improvement programmes that are located in clusters, again jointly under the cluster development programme and the DSDC. In the case of clusters where some larger firms dominate through value chain or subcontracting relationships, a method to divide costs of training by size of firm might need to be evolved along with positive incentives for firms that undertake training.

Employment Assurance & Skill Formation

8.114 In order to strengthen and upgrade (formalize) the systems of informal training, the Commission has recommended that a massive *Programme for Employment Assurance and Skill Formation with the aim to develop human capital through on-job-training* be launched. The scheme will provide employment to the poor for about six months and offer them formal marketable skills. The proposed scheme may also be considered as a programme for skill formation through apprenticeship and the six months' job at minimum wages may be regarded as "on-job-training".

8.115 All employers willing to provide on-job-training would be registered by the proposed SDS in its MIS. All workers seeking training in specific areas of their choice would also be registered under the scheme. The allotment of workers to employers/trainers could be by mutual agreement or through employment exchange/ placement centres in the district.

8.116 All employers/trainers would provide on-job-training to the worker and a daily stipend not less than

the declared minimum wage for unskilled workers. It will be the responsibility of the employer to provide employment for at least six months to the eligible worker. A mechanism will have to be set up to quickly arbitrate any possible infringement of the terms of this scheme by any of the parties involved.

8.117 Every worker under the scheme would be expected to undergo certification in the designated skill. For this purpose, this programme would be dovetailed with the Skill Development Initiative which is developing course curricula under the Modular Employable Skills Programme and certification norms for a wide variety of skills.

8.118 The scheme is intended for youth in the age group 18-29 with at least primary but less than higher secondary levels of education. Further, it is largely intended to cover poor youth.

8.119 At present, employment and income opportunities are distinctly higher in large towns. On the other hand, the training capacity is the weakest in rural areas, particularly in poorer states. Since the scheme requires building up of administrative capacity in the districts, in the first phase, we may start with urban areas with poorer employment opportunities and cover some 50 non-metropolitan smaller towns with population between 50,000 and 5 lakhs, as pilots. This may be followed by the other segments of the population, such as the eligible youth in the rural areas and larger towns.

8.120 The total financial provision per worker would be Rs 10,000/- which would cover (a) about six months of pre-or post-certification on-job-training/employment for which the employer be provided Rs. 50 per day as subsidy towards stipend being paid to the worker (b) Rs 500 as the cost of certification, as provided under the SDI; (c) Rs. 1000, as cost of training/incentive to the provider/employer. The worker would have the flexibility of receiving training either pre or post-certification, or both. However, the subsidy towards the stipend would be back-ended in the case of the former; i.e. the employer would receive the stipend subsidy only if the worker is certified.

8.121 As indicated above, the programme requires a one time financial outlay of Rs. 10,000 per worker, which

is the same as that provided under the NREGA. A provision of Rs 10,000 crores over five years for this project would thus ensure additional training-cum-employment to one crore persons through this mechanism, expanding the present training capacity by 2 million per year under the programme.

Support to and Synergy with Private Initiatives

8.122 There are, as we have seen, a vast number of private initiatives to support skill training. These include in-house training by corporates, private for-profit training initiatives and private not-for-profit initiatives by Foundations, Trusts, NGOs etc. The government's approach towards these initiatives should be to provide them the maximum opportunity and flexibility for growth. While the public sector will no doubt like to rely on NGOs/private agencies to front-end its training initiatives, special efforts should be made to preserve the autonomy of those institutions which are trying to develop innovative models of training for the unorganised sector workers. Support may be provided for such initiatives as well as other not-for-profit initiatives, through subsidies for capital costs or coverage of financial deficits, with proper incentives to expand their outreach among the weaker sections of the unorganised sector workers. The Commission has already envisaged such a role for its proposed National Fund for the Unorganised Sector. This function must also be extended to the NSDC.

Addressing Gender Issues in Skill Development

8.123 The Commission believes that the proposed expansion in training systems should pro-actively foster gender sensitivity and gender equity in training through proper design, advocacy, and incentives. Four broad sets of issues may be addressed here. First, the content of training programmes for women may need to integrate components of literacy, numeracy, business skills, confidence skills in a bigger way. Second, training for women is likely to be more effective when done in a formal, participatory way through groups. The Kudumbashree initiative in Kerala shows that this can be coordinated fairly effectively at the district or block

levels. Third, programmes should address the special constraints faced by women in participating in training. This includes absence of mobility, need for child care and gender segregation. The training itself should mainly comprise modular, short-term courses with flexible entry and exit options and mobile training provisions. Fourth, training women only in gender stereotyped activities has both specific and general ramifications, since such training not only would perpetuate gender segmentation, but also often leads to over saturation of trained women in low paid work. Hence, women must also be encouraged to train for "hard" technical skills as well in areas such as agriculture, where their role as producers is far more significant today. Admittedly, NGOs may have a better niche in doing this.

Financing

8.124 The significant expansion in VET will require a considerable up-scaling of financial resource commitment by the government and by the private sector and both these entities have already signalled their commitment to increase their spending on skill training. The present commitment of the Central government is to increase expenditure on VET to Rs. 22,800 crores during the 11th Plan. In addition, a sum of Rs. 300 crores has been committed to the NSDCB and Rs. 1000 crores has been allocated to the NSDC. A large part of this allocation will go to support strengthening of VET infrastructure for training of workers for the organised sector through ITIs and Polytechnics.

8.125 This Commission has advocated that: (i) a sum of Rs. 5000 crores be allocated to the NSDCB for a National Mission for Skill Development in the Unorganised Sector for supporting the cost of setting up and operating the proposed institutional infrastructure for expansion of training initiatives at the district level and, (ii) at least a doubling the existing training schemes under the SDI and MSME (Rs. 1000 crores); and (iii) Rs. 10,000 crores for the proposed Employment Assurance Scheme. In effect, the Commission's proposal imply a significant increase (to about Rs 40,000 crores) in the financial allocation for VET over the next five years. Given the strong positive externalities emerging from expansion of training, especially of the unorganised

sector workers, this increase can be considered necessary. Moreover, if necessary, the resources can be raised through a levy on the turnover of companies to help partially meet the cost of skill development programmes. Tax concessions may also be extended for making contributions for skill development.

8.126 The Commission has also made detailed recommendations concerning the training infrastructure, training of trainers and labour market information system in its report on Skill Formation & Employment Assurance in the Unorganised Sector.

Conclusion

8.127 The Commission has focused on the formal training of workers who are either employed in the unorganised sector, or are likely to join the unorganised sector as wage or self-employed workers. These are typically those with low levels of education and economic wherewithal, a proportion of whom have acquired skills

through informal training. The characteristics and training needs of this segment of the workforce are quite different from the upper segment requiring significantly different approach – in terms of content, institutional delivery etc.

8.128 Expanding the training for such workers would require active participation of different types of stakeholders – government departments, trainers, private training providers, NGOs and employers. The financing and cost recovery models for such training would also be quite different. The Commission is of the view that if its recommendations, including the proposed National Mission, a fresh institutional approach and the Employment Assurance Programme are adopted, it would be possible to expand training to cover 50 per cent of the labour force within a reasonable time frame. This, in turn, would not only provide a firm anchor to the growth process, it would also help in spreading the benefits of growth to a much wider cross-section of the work force.

9

Public Employment Programme for the Unorganised Workers: The Case of NREGA

Introduction

9.1 Programmes to create direct employment opportunities for wage workers through public works have in the past focused on generation of supplementary employment opportunities, especially during lean periods. They have been considered as an important component of the anti-poverty strategy. These programmes are expected to create durable assets for the community and thus enhance further economic activities. Wage employment programmes also push up demand for labour and thus exert an upward pressure on the market wage rates by attracting people to public works programmes, thereby reducing supply of cheap labour, often at wages that would not even meet their bare basic needs.

9.2 Consistent with our approach for an employment-centred development strategy that would level up the informal economy, we see public employment programmes as an integral part of planning and policy. Apart from the advantages that would accrue to the unemployed, under employed and the poorly employed, such programmes will also have a positive macro

economic impact via the increase in effective demand from the hitherto poor and vulnerable segments of the population. Viewed in this perspective, the enactment of the National Rural Employment Guarantee Act (NREGA) is a historic step in the Indian context. In this chapter we examine the functioning of this rights-based employment programme with a view to strengthen its developmental potential and put forward a set of recommendations.

9.3 In the same vein, the Commission is also of the view that there should be an urban counterpart to the NREGA. The principles and framework of such an urban employment programme could be the same but with due diligence to the characteristics of the urban labour market as well as the nature of urban context. The Commission is of the view that there exists considerable scope for such a programme. It could be an ideal instrumentality for: (i) construction of publicly funded low cost housing that would, first and foremost, target the slum dwellers, (ii) provide electrification, water supply and sanitation facilities to such housing areas, (iii) introduce slum improvement programmes

wherever feasible, (iv) organise low cost waste management systems, and (v) undertake projects for greening urban areas to alleviate pollution.

National Rural Employment Guarantee Act

9.4 The National Rural Employment Guarantee Act, 2005 (NREGA)¹ is a major step in the direction of providing security of employment to rural workers by providing at least one hundred days of guaranteed wage employment in every year to every household whose adult members volunteer to undertake unskilled manual work. The Act marks a historic step towards recognising and ensuring work as a right of the people. The programme was launched in February 2006 in 200 districts and has been extended to all the districts in 2008. It aims to provide employment through public works, which lead to development of infrastructure, land development, irrigation, and construction. The main aim is to empower labour by making employment a right by which the rural workers can demand employment. From a development policy perspective, the NREGA can also be viewed as a distributive employment strategy, there by, heralding a new deal for the country's poor and a foundation for inclusive development.

9.5 The Commission has viewed NREGA as an important component of an employment- based growth strategy. Based on preliminary observations and analysis, the Commission has made a number of recommendations relating to the programme and has also asked for its extension to urban areas (NCEUS 2007a, NCEUS 2008c). In order to get greater insights into the working of the programme, the Commission has made field trips to a number of states to study the NREGA. It has also commissioned a few studies on the programme. G. B. Pant Social Science Institute undertook two such state

studies in Himachal and Orissa, under the overall coordination of Prof. Jean Dreze in 2008 at the instance of the Commission. Together these two studies are referred to in this report as GBPSSI (2008). Subsequently, Prof. Dreze and his team conducted studies in six states as requested by the Commission covering ten districts spread over six North Indian states viz., Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan and Uttar Pradesh. Another study was conducted by Centre for Economic and Social Studies (CESS), Hyderabad covering two Andhra Pradesh districts and was coordinated by Prof. S. Galab. These two studies are referred to in this chapter as GBPSSI Study (2009) and CESS Study (2009)² respectively. Apart from these field studies, NCEUS has also supported a Conference on NREGA. The report of the Conference prepared for the Commission is referred in this chapter as IHD (2009)³. Drawing from these studies and the Conference Report, the present chapter analyses the progress and the functioning of NREGA and brings out critical implementation issues for the attention of the policy makers in order to enhance its effectiveness in various parts of the country.

The Context & Contours of NREGA – A Review

9.6 NREGA is visualized as a first step towards the realization of the economic right to work as envisioned in the Directive Principles of State Policy. It recognizes Article 39, according to which the State must ensure that “citizens, men and women equally, have the right to an adequate means to livelihood” and Article 41 whereby “the State, shall within the limits of its economic capacity and development, make effective provision for securing Right to Work...” (IHD 2009). The Employment Guarantee Act based on the right-based approach, was

¹ Acronyms NREGA, NREG, NREGS are used interchangeably in the literature, all meaning the public employment programme under National Rural Employment Guarantee Act (NREGA).

² The GBPSSI Study (2009) covered ten districts - Bihar (Araria & Kaimur), Chhattisgarh (Surguja), Jharkhand (Koderma & Palamau), Madhya Pradesh (Badwani & Sidhi), Rajasthan (Dungarpur & Sirohi) and Uttar Pradesh (Sitapur). The survey was initiated by the G B Pant Social Science Institute, Allahabad under the guidance of Jean Dreze with additional support from the Department of Economics, Allahabad University. Field work was conducted in May-June 2008. Its findings are referred to as GBPSSI (2009), and are additionally reported in Dreze and Khera (2009) in *Frontline* and Dreze, Jean (2009). The CESS (Hyderabad) Study by S. Galab, P. Pruthvikar Reddy, E. Revathi and C. Ravi was also supported by NCEUS. It covered the two districts of Kadapa and Mahaboobnagar in Andhra Pradesh and is referred to as CESS (2009).

³ The findings of the "NREGS in India: Impacts and Implementation Experiences" Conference, organised by Institute for Human Development (IHD), New Delhi and Center De Sciences & Humanities (CSH), are referred to as IHD (2009).

seen as a measure to ensure the larger fundamental right to life with dignity.

9.7 Past experiences show that India's poverty alleviation strategy, including the National Rural Employment Programme (NREP), Rural Labour Employment Guarantee Programme (RLEGP), Jawahar Rojgar Yojana (JRY), Employment Assurance Scheme (EAS), Sampoorna Gramin Rojgar Yojana (SGRY) etc leaned towards wage employment programmes. With specific reference to NREGA the argument has been to treat it as a component of a full employment strategy for India (Bhaduri 2005, IHD 2009). By ensuring employment for a minimum number of days at minimum wages, the thrust was on 'employment first, with growth as an outcome', rather than the vice versa (Bhaduri 2005). It is also argued that this path towards full employment alone can ensure the 'economic content of participatory democracy', and allow for "development with dignity" (ibid).

9.8 The rationale for adopting wage employment programmes by the Government during the last many decades has been that they provide steady opportunities for employment to those who are unemployed or underemployed. Beneficiaries include those who have labour as the only asset under their control (owning neither capital nor skills), and are unable to take even the minimal risks associated with self-employment. State assistance in the form of such wage employment then acts as a valuable safeguard against risks and vulnerabilities. Other positive externalities envisaged due to the adoption of wage employment programmes include the upward pressure on market wages because of the higher wages from the programme and organizing the rural poor beneficiaries of the scheme into collectives.

9.9 The potential of the NREGA to lead the economy towards a labour-intensive growth path, especially in the light of the low and declining growth rate of productive employment, needs to be emphasised in this context. The wage-work programme needs to be seen in a long term perspective, with a strong planning component, dovetailing it with the ongoing development efforts, incorporating decentralised planning and implementation, skill training, maintenance of public assets

and eventually absorbing wage-earners into mainstream employment. The path towards full employment lies in strengthening the sectors where the poor are located and stabilizing their incomes, improving their asset base, constructing basic socioeconomic infrastructure at the local level, enabling access to paid work opportunities and exerting an upward pressure on market wages (IHD 2009). NREGA as a programme is expected create conditions for realisation of the above outcomes.

An Overview of the Scheme

9.10 NREGA has been envisaged from the perspective of 'right to employment' and guarantees 100 days employment at a minimum fixed wage rate, but more importantly it bestows an entitlement. The Act has also identified roles and responsibilities for the Central and state governments, district and block administrations and the panchayats. The onus of guaranteeing 100 days of employment rests with the Government and the applicant can demand for unemployment allowance in case he/she does not get work. Apart from creation of work opportunities, the Act also provides for basic facilities at the worksite namely viz. crèche, safe drinking water, and medical aid.

9.11 The salient features revolve around recognition of the right to work and dignity to work. These include:

- A right-based framework, with employment on demand.
- At least one hundred days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.
- Wage payment within 15 days.
- Payment of unemployment allowance in case of non-provision of employment within 15 days (unemployment allowance to be at least one fourth of the minimum wage for the first 30 days, and at least one-half of the minimum wages thereafter).
- Work within 5 kilometres of residence (if provided outside 5km, 10 % extra wage to meet additional transportation and living expenses).
- Minimum wages to be paid by the state governments.

- Priority for ensuring one-third of workers is women.
- Mandatory basic worksite facilities – drinking water, shade, medical aid and crèche if more than five children below age 6 are present.
- Ban on the use of contractors and machinery and allocation of funds in the ratio of 60:40 for unskilled and skilled/material components of the work ensure the primacy of labour intensive nature of work.
- Equal wages for men and women.
- Devolution of powers to the Panchayati Raj Institutions.
- Mechanisms of accountability and transparency.
- Creation of durable assets to strengthen the livelihood resource base of the rural poor.

9.12 It is important to recognize that various stakeholders are involved in the implementation of NREGA and steps, required to be taken, envisage processes to be followed both sequentially and in parallel. The implementation structure of NREGA involves the three levels of government (Central, provincial and local). The participation of the local governments (in three tiers) is vital, particularly the lowest tier as direct people's participation can play an effective role here. The Act sets out the structure and role of the implementation machinery as well as the monitoring mechanisms. It is also unique in setting out transparency safeguards and providing a role for various autonomous actors like civil society agencies which are also expected to provide information and awareness on the programme and its benefits and also facilitate enrolment of eligible members and engage in hand holding in order to ensure better implementation. Each step in operationalization has its logic and falls within overall perspective of the programme.

A Snapshot of NREGA Over Three Years

9.13 A snap-shot view of the progress of NREGA presented in terms of critical indicators brings out sharp contrasts in terms of state-wise performance. It can be seen that in terms of the households receiving 100 days of employment (7 per cent), the NREGA has a long way

to go. There are significant variations across the states in the per cent of working households as well as agriculture labour households who got employment (Table 9.1). There is no set pattern observed, but poverty concentrated states like UP, Bihar, Jharkhand lag behind several others in terms of the number of days. If one were to see the wage component of the programme, it can be concluded that NREGA has been able to transfer significant resources into the hands of the workers.

9.14 While the above table provides details from secondary data regarding the number of employment-days created and the amount spent, the NCEUS sponsored studies as well as those by several other scholars have brought out some interesting features of NREGA's functioning and progress in terms of spatial and social variations based on field surveys. In what is discussed below we focus principally on the NCEUS sponsored studies, making some references to secondary data and other field studies.

Demand for Work

9.15 In the GBPSSI (2009) Study of six north Indian states an overwhelming majority of 98% of the sample workers claimed that they desire to fully avail the 100 days of employment provided under the scheme (Table 9.2). However, the same study also revealed that, in practice, very few workers had received 100 days employment. For instance, proportion of the sample workers who reported 100 days of work in the past 12 months was invariably very low – Chhattisgarh (1%), Bihar (2%), Uttar Pradesh (4%), Jharkhand (9%), Madhya Pradesh (19%) and Rajasthan (36%). In Andhra Pradesh too there is high demand for NREG work, with workers expressing willingness to work for a period of 180 days (CESS 2009). This gap is demonstrative of the massive potential for the scheme, and also reflects the pressing need to increase in employment-days to meet the increasing demand.

Reaching the Poor & the Vulnerable

9.16 Given the nature of the programme and its intended objectives, one would be interested to assess whether NREGA is reaching the intended population, who are the socially and economically deprived. Findings

Table 9.1: State-wise NREGA Implementation Status up to January 2009

State	Percentage of Households Provided Employment to		Percentage of Households Completed 100 days of Employment to	Percentage of Wage Expenditure to	Average Wage Expenditure per Household
	Total Agricultural Labour Households\$	Total Rural Working Households**	Number of Households Provided Employment	Total Expenditure	Provided Job (Rs.)
1	2	3	4	5	6
Andhra Pradesh	101.1	39.5	5.7	73.7	2907
Assam	262.4	34.4	4.8	63.5	2753
Bihar	65.2	22.4	0.6	64.8	2027
Chhattisgarh	131.1	51.6	5.6	64.3	3979
Gujarat	25.1	8.7	2.6	70.6	1408
Haryana	28.8	3.5	1.6	80.3	5279
Himachal Pradesh	1837.7	33.0	5.4	62.3	3506
Jammu and Kashmir	163.5	7.7	1.7	57.4	2246
Jharkhand	274.4	30.6	3.0	52.8	3913
Karnataka	20.6	9.0	2.4	64.3	2001
Kerala	55.2	9.5	0.6	82.4	2209
Madhya Pradesh	167.4	50.8	8.0	60.6	3633
Maharashtra	13.1	5.0	3.1	88.6	3994
Orissa	39.8	12.3	1.8	61.2	2948
Punjab	14.8	3.1	0.4	59.8	2468
Rajasthan	1042.8	70.6	20.7	71.3	5565
Tamil Nadu	89.9	34.4	8.6	95.7	2605
Uttar Pradesh	103.2	14.7	8.7	64.9	4310
Uttaranchal	147.4	13.5	1.4	64.2	2912
West Bengal	56.3	19.2	0.2	65.4	1617
India*	92.4	24.8	7.4	68.0	3438

*Including all the states and union territories

\$ Agriculture labour households are those households whose principal means of income is agricultural labour. Figures exceed 100 per cent in some cases implying that other types of households also participate in NREGA.

** Worker household means household with at least one worker.

Sources: Ministry of Rural Development, Government of India. The total rural worker households and agriculture labour households are estimated from NSS 2004-05 Employment-Unemployment Survey.

Table 9.2: Demand for Work

Proportion (%) of sample workers who:	
Want at least 100 days of NREGA work over the year	98
Have worked for at least 100 days on NREGA in the last year	13

Source: Dreze & Khera (2009) based on GBPSSI (2009) Study

from the field studies on the participation of poor and socio-economically vulnerable households (SC, ST and women) reflect that NREGA is reaching its intended target groups of population.

9.17 The GBPSSI Study showed that 81 per cent of the sample households working under NREGA live in kaccha houses, 61 per cent of them are illiterate and over 72 per cent of them do not have electricity at home (Dreze & Khera 2009).

9.18 Further, the CESS Study of two districts of Andhra Pradesh points out the fact that the proportion of landless agriculture labour participating in NREGA is higher than their share in the total households of the villages studied. In the two districts studied, 74 and 60 per cent of landless labour households participated in NREGA. Similarly, it was observed that households who are self-employed in non-agriculture activities have participated in large proportions in NREGA. It is also found that a majority of households participating in NREGA in the two districts of Andhra Pradesh are also from the 'below poverty line' category (65 and 61 per cent of BPL households are in NREGA in the two districts) (CESS 2009). Confluence of these three observations brings us to the conclusion that NREGA is addressing the economic needs of the most deserving and marginalised households.

Participation of SCs & STs

9.19 Majority of the NREGA workers belong to the most disadvantaged sections of the society. Macro data provided by the Ministry of Rural Development (Table 9.3) reveals the state-wise picture of participation of households from SC and ST communities. At the all India level, SC and ST families together account for over 55 per cent of the total employment-days created. While there are annual variations in terms of participation of STs (with expansion in the NREG coverage), there is a steady growth in the participation of SC families over the three year period.

9.20 Field studies also corroborate higher participation from SC and ST families. The GBPSSI (2009) Study of six North Indian states found that 73 per

cent of respondents belong to SC/ST families. The CESS (2009) Study reported that majority of NREG beneficiaries came from the vulnerable social groups (SCs, STs and OBCs), landless agriculture labour households and women. The same study found that participation of SCs and OBCs is more than their respective shares in the total households (ibid). Such conditions reflect the fact that the workers face multiple deprivations and hence NREGA work becomes an important source for sustaining them at the subsistence level. Even in Bihar, benefits reached mostly the target groups and the process was also found non-discriminatory (IHD 2006).

Women's Participation

9.21. One of the successes of the NREGA is that, on average, the participation of women in the programme is higher than the stipulated minimum requirement of 30% (Table 9.4). Women constituted 46% of the beneficiaries in 2007-08. However; there are wide regional variations in the level of participation of women. States like Kerala and Rajasthan, the participation rates for women are much higher than 50%. Tamil Nadu in particular shows women's share in NREGA employment to be 81% (Dreze and Oldiges 2007). Similarly, in Rajasthan, the better performing northern state, Dungarpur district has reported 75-80% female beneficiaries (Ghosh 2006). However, the same cannot be said about many other states. According to GBPSSI (2009) Study of six north Indian states, the statutory minimum requirement of 33 per cent participation by women was not met in Chhatisgarh (25%), Jharkhand (18%), Bihar (13%) and Uttar Pradesh (5%).

Some Positive Benefits

9.22 During the field surveys several positive externalities were identified by the workers who participated in NREGA. They include reduction in distress out-migration, improved food security with wages being channelled into incurring expenses on food, health, education and repaying of loans, employment with dignity, greater economic empowerment of women workers, and sustainable asset creation.

Table 9.3: Participation of SCs & STs in NREGA (Person Days)

States	Percentage of Person Days to Total Person Days					
	Scheduled Caste			Scheduled Tribe		
	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09
Andhra Pradesh	29.82	27.72	26.49	13.01	12.79	12.92
Assam	8.65	7.60	9.52	46.26	39.12	33.59
Bihar	47.08	45.66	43.86	3.21	2.46	4.58
Chhattisgarh	12.01	14.91	16.86	45.55	41.39	39.22
Gujarat	7.04	5.92	11.69	64.26	65.92	54.79
Haryana	60.03	53.80	58.69	0.00	0.00	0.00
Himachal Pradesh	30.40	32.19	32.25	22.41	7.26	8.43
Jammu and Kashmir	5.42	9.85	6.46	23.22	24.34	28.54
Jharkhand	23.48	20.74	19.03	40.29	41.65	40.51
Karnataka	33.05	30.23	27.85	20.35	19.18	14.55
Kerala	20.12	16.87	20.87	12.40	16.89	9.89
Madhya Pradesh	15.87	17.87	17.39	48.64	48.76	46.78
Maharashtra	16.19	18.44	17.17	40.88	38.49	45.26
Orissa	23.65	24.33	22.62	49.27	39.65	33.79
Punjab	69.36	76.29	88.47	0.00	0.00	0.00
Rajasthan	15.97	19.24	29.13	64.36	46.39	24.37
Tamil Nadu	56.06	57.36	59.09	2.37	2.63	1.73
Uttar Pradesh	56.85	53.75	53.90	3.11	1.85	2.28
Uttarakhand	26.70	27.30	27.44	1.40	4.34	4.77
West Bengal	36.08	36.28	39.23	18.61	13.80	15.18
Puducherry	-	-	49.39			
Total	25.36	27.42	29.61	36.45	29.33	25.11

Source: MoRD data - NREGA Implementation Status - 2006-07, 2007-08, 2008-09 (up to March 25, 2009). Total includes NE states also. Data calculated from MoRD for 2006-07, 2007-08 and 2008-09 is inclusive of added districts in the subsequent phases. [Phase I - 200 districts (commenced on February 2, 2006), Phase II - 130 districts (commenced on April 1, 2007), Phase III - 285 districts (commenced on April 1, 2008)]

Curbing Migration

9.23 The GBPSSI Study revealed that 57 per cent of the respondents were of the view that overall out-migration from villages in search of employment had decreased. In turn, 57% of the workers admitted that with the onset of NREGA, their previous migration had been avoided (Dreze & Khera 2009). These findings support the trend that workers prefer to work in and around their villages, rather than bear the social and other costs of migrating elsewhere in search of work.

Valuable Source of Supplementary Income

9.24 The GBPSSI (2009) Study also found that wages earned through NREGA had helped workers in financing their food and health requirements (Dreze and Khera 2009) with 69 per cent of the workers reporting that the wages earned being spent on food and 47 per cent of the workers reporting that they had spent the money on illness. Further, more than two thirds of the respondents said that the income so generated had helped in sending children to school (37%), in repayment of debts (34%) and in the avoidance of demeaning and

Table 9.4: Participation of Women in NREGA (Person Days)

States	Percentage of Women Person Days to Total Person Days		
	2006-07	2007-08	2008-09
Andhra Pradesh	54.79	57.75	57.92
Assam	31.67	30.85	25.84
Bihar	17.38	26.62	26.73
Chhattisgarh	39.32	42.05	45.65
Gujarat	50.20	46.55	38.36
Haryana	30.60	34.42	32.27
Himachal Pradesh	12.24	28.49	42.51
Jammu and Kashmir	4.46	1.08	7.33
Jharkhand	39.48	27.17	28.79
Karnataka	50.56	50.27	55.99
Kerala	65.63	71.39	86.08
Madhya Pradesh	43.24	41.67	42.84
Maharashtra	37.07	39.99	44.75
Orissa	35.60	36.39	34.56
Punjab	37.76	16.29	13.41
Rajasthan	67.14	69.00	68.19
Sikkim	24.79	36.74	32.10
Tamil Nadu	81.11	82.01	80.29
Uttar Pradesh	16.55	14.53	15.20
Uttarakhand	30.47	42.77	34.92
West Bengal	18.28	16.99	23.86
Total	40.65	42.56	48.12

Source: MoRD data - NREGA Implementation Status - 2006-07, 2007-08, 2008-09 (up to March 25, 2009). Data calculated from MoRD for 2006-07, 2007-08 and 2008-09 is inclusive of added districts in the subsequent phases. [Phase I - 200 districts (commenced on February 2, 2006), Phase II - 130 districts (commenced on April 1, 2007), Phase III - 285 districts (commenced on April 1, 2008)]

hazardous work (Table 9.5). A majority (57%) of the workers said that they had used their NREGA wages to buy medicines during the last 12 months. NREGA wages were also used to buy materials for school such as uniforms and notebooks.

Employment with Dignity – Establishing the Wage Norm and Improving Labour Standards

9.25 Unlike in the case of previous wage employment programmes such as the National Food for Work Programme, while there was delay in wage payments for weeks or months, the GBPSI (2009) Study of six north Indian states shows that about in 46 per cent of the worksites, respondents were now earning the minimum wage through NREGA (Table 9.6). The NREGA wage has raised the bar for the determination of wages in

agriculture. This has the potential of improving the bargaining power of labour in the long run. Further, women in particular were seen to favour NREGA because of social dignity involved in government sponsored employment.

Table 9.5: NREGA Workers' Perception of the Programme (percent)

Proportion (%) of sample workers who stated that:	
NREGA is "very important" to them	71
NREGA has helped them to avoid hunger	69
NREGA has helped them to avoid migration	57
NREGA has helped their family to cope with illness	47
NREGA has helped them to avoid demeaning or hazardous occupations	35

Source: Dreze & Khera (2009) based on GBPSI Study

Table 9.6: NREGA Workers' Perception of Minimum Wages for Work

Percentage of sample workers who:	
Knew the minimum wage	48
Percentage of sample worksites where	
All workers earned the minimum wage	46

Source: Dreze and Khera (2009) based on GBPSSI (2009) Study

Gender Impacts

9.26 The GBPSSI (2009) Study revealed that a majority of women collected their NREGA wages themselves and retained with them. Further, NREGA employment served as a primary wage earning opportunity for a large section of women. A few women workers claimed to have had alternative sources of income in the past 3 months (Table 9.7).

Table 9.7: Indicators of Women's Empowerment

Percentage of female sample workers who:	
Collect their own wages	79
Keep their own wages	68
Earned any cash income (other than NREGA wages) during the last 3 months	30

Source: Dreze and Khera (2009) based on GBPSSI (2009) Study

Other Observed Impacts

9.27 There have also been improvements in the conditions of work at worksites in comparison with those in the past. There is reportedly limited use of machines. Harassment of workers too is seen to have been reduced, most starkly in Rajasthan, according to the GBPSSI (2009) Study (Table 9.8). Complete elimination of contractors from the worksite, however, has not occurred. Worksites in Jharkhand were on the lead in this case, accentuated by the lack of proper implementing agencies in the state.

Table 9.8: NREGA Workers' Perception of Work-site Irregularities & Exploitation

Percentage of sample workers who reported that:		
	Rajasthan	Other States
Machines had been used at the worksite	2	8
A contractor was involved	0	35
Workers had faced harassment at the worksite	6	12

Source: Dreze and Khera (2009) based on GBPSSI study

9.28 Further, the assets created under the NREGA were found to have productive value by 83 per cent of the respondents in the GBPSSI (2009) Study. Changes in attitudes have also given a fillip to the Sarva Shiksha Abhiyaan, rural infrastructure and rural connectivity (IHD 2009).

Lessons from Variations in Performance

9.29 The performance of the NREGA varies significantly across the states. There are some states where NREGA has managed to achieve its key outcomes very well and which have indeed innovated in many respects. In others, performance has been unimpressive and lack lustre. Given that the overall framework for the NREGA is similar across the states, clearly, the variations in performance depend on factors such as the political and administrative will of the governments, historical background of the state as well as the nature of civil society and public actions around the NREGP. But this also suggests that the state governments which have the responsibility of framing the rules as well as overseeing the actual implementation of the scheme on the ground can "own" the scheme and give it a fillip. There is a lot of scope for state governments to innovate and adapt the scheme according to the local requirements. State specific experiences are important sources for innovations which in turn provide valuable lessons for replication. The relative success of the scheme in some regions, and failure in others highlights the need to properly understand the reasons for inter and intra state variations and to replicate and adopt features of implementation of the better performing states. Below we highlight some of the experiences from the states.

Success Stories

9.30 The performance of the scheme in the state of Andhra Pradesh has been laudable because of strong political will and also because the state has had a rural worker and community mobilization movement. In addition, Andhra Pradesh has successfully employed computerization and e-governance mechanisms for monitoring the scheme. For, example, funds are being transferred electronically; every jobs seeker has got a bank account and wages are paid through bank or post office account; the whole process from job application to registration is computerized (IHD 2009).

Table 9.9: Functioning of NREGA in Pati Block of Madhya Pradesh

	Pati Block	Other sample blocks
Average days of NREGA work in the past 12 months	85	41
Percentage of sample workers who:		
Worked for 100 days during the last 12 months	47	11
Got employed in response to a written application	92	19
Percentage of sample workers who were aware of their entitlement to:		
One hundred days work	88	50
Minimum wages	67	47
Payment within 15 days	76	55

Source: Dreze & Khera (2009) based on GBPSSI Study

9.31 In Rajasthan, which has the history of drought relief based public employment and active civil society, the success of NREGA is more impressive compared to other north Indian states. Dungarpur district was able to make NREGA more of a success because of the presence of effective grassroots NGOs and their ability to mobilize the poor. Further, in Rajasthan, the innovative arrangement of having a 'mate' supporting worksite management has led to greater productivity of workers, easier worksite supervision and greater transparency in maintaining of work related records. Facilitation of the scheme by the local civil society organisation, the Jagrut Adivasi Dalit Sangathan (JADS) in Pati block of Madhya Pradesh bears testimony to public action from below to inculcate the practice of work on demand through application, receipts at the time of submission of applications and ensuring the payment of unemployment allowance, if necessary (Khera 2008) (Table 9.9).

9.32 In Kerala, the NREG implementation pivots around the Kutumbashree (Self Help Groups of poor women). These women are not only involved in identifying the public work projects, but also overseeing the implementation. Besides Kerala has also used banks and post offices for wage payment. All these have resulted in high participation rate of women and an overall efficient system. Manifold increase in the number of work days, reduction in distress out-migration, enrolment in schools were observed in a study of 8 states by Indian School of Women's Studies and Development, New Delhi (IHD 2009).

9.33 In the tribal dominated and backward district of Pakur in Jharkhand, customized information, education

and communication (IEC) activities had a large role to play in awareness generation about the NREGA (IHD 2009). Social audit conducted as a part of "NREGA Watch" of National Institute of Rural Development revealed absence of contractors and machines, kutchra muster rolls, presence of first aid facilities at stone quarries and mines, payment of wages through bank accounts (119,000 labour families had opened accounts in Banks/ Post Offices after NREGA), convergence with health and aaganwadi schemes, better quality of governance and better attendance at gram sabhas (270 out of 284 individuals attended the Gram-Sabha in 2008) (ibid).

Remaining Gaps

9.34 In some states, the scheme has been plagued with teething problems and is yet to take off. Jharkhand faced problems in implementation because of the non-constitution of Panchayat Raj Institutions (PRIs) in the state (Dreze and Bhatia 2006). Bihar has problems related to shortage of staff, poor infrastructure, low administrative capacity of the state, etc. (IHD 2009).

9.35 Poor awareness levels of workers regarding the scheme and the entitlements can also be cited as a reason for its inability to take off in some regions. In the GBPSSI Study of six states, Rajasthan emerges favourably in this regard, with 90 per cent of workers knowing about the provision of 100 days of work. More than half of the respondents were aware of the minimum wages and the 15 days period within which wage payment should take place (Table 9.10). This can be attributed, as already mentioned, to the state's active tradition of public

Table 9.10: Awareness Levels

Percentage of sample workers who are aware of their entitlement to:	Rajasthan	
	Rajasthan	Other States
One hundred days work	90	42
Minimum wages	67	43
Wage Payments within 15 days	74	54

Source: Dreze & Khera (2009) based on GBPSSI Study

mobilisation, state initiated awareness drives and presence of workers' organisations such as the MKSS. In comparison, the remaining five states where the survey was conducted, less than 50 per cent of the workers exhibited knowledge of the most basic provision of the scheme of employment for 100 days. Further, the demand based nature through which employment is offered under NREGS has still got a long way to go in terms of being operationalised, with 71 per cent of the respondents in the study being unaware that an application had to be submitted in order to gain work.

9.36 Also, the GBPSSI (2009) Study brings out the urgent need for imparting training to Gram Panchayat functionaries, government officials and even specially appointed NREGA personnel such as the Gram Rozgar Sewaks, as their awareness about the scheme and its provisions was found to be wanting.

9.37 In a number of states, low participation of women in the programme is not due to the lack of demand from women but to the social norms that restrict work participation outside the home, especially in states like Uttar Pradesh and Bihar. The GBPSSI (2009) Study reveals that in some parts of Uttar Pradesh, male relatives and Gram Panchayat functionaries showed resistance to women's participation under NREGA. In Sitapur district of Uttar Pradesh there were many cases where women's names were not even written in NREGA job cards. Several instances have been reported where women, especially the single women, have been denied access to the programme. The fact that any adult member from the household is eligible to participate is not yet clear to the people and this works against the women who wish to work. In Andhra Pradesh, in many cases the workers are organised as family units where men undertake the

digging and women carry out the 'lead' and 'lift' operations. However, in cases where the women are single employment seekers they are sometimes denied the opportunity because of the perception that they might reduce the group's productivity.

9.38 Thus, there are still several hurdles in most of the states for enhancing women's participation in the programme, though, as already noted, some states have emerged as clear exceptions. One of the stated objectives of the NREG Scheme is to foster a sense of gender equality and encourage women's participation in the economic domain. However, such exclusion only leads to reinforcement of the existing social biases against women and goes against the spirit of the Act. Fostering gender equality also implies that the state must step in to lighten the women's role in the "care economy". The CESS study (2009) conducted in two districts of Andhra Pradesh illustrates how participation of women in NREGS can lead to situations wherein education of school going girl children is interrupted so that they may look after younger siblings when the mother goes to work. Such a scenario needs amending with a more sustained campaign for the operationalisation of crèches. The GBPSSI (2009) Study also showed that there is an increasing trend to appoint "mahila mates" on a large scale in Rajasthan which is a positive development.

9.39 Other implementation difficulties have included confusion about roles and responsibilities of NREG personnel and lack of a grievance redressal mechanism such as a district ombudsmen or Lok-Adalats.

9.40 Overall, as stated earlier, even within the existing framework and limitations, many of the problems can be substantially overcome if the political and administrative leadership at the state and local levels plays a more proactive role in implementing the objectives of the NREGA.

Need for Safeguarding Essential Entitlements

9.41 As noted elsewhere in this chapter, several violations of the basic entitlements of workers under the scheme are routinely noticed. At the same time, these entitlements become more difficult to safeguard due to

low levels of awareness among the workers in several parts of the country. As studies show, violations of NREGA norms are with respect to issues such as setting up of proper work application process and receipt of applications, payment of minimum wages, delays in payments, and lack of basic facilities at work places. While some of the violations occur due to procedural lapses like over-exacting or non-transparent schedule of rates, defective measurements, and weaknesses/gaps in the implementation system, there are also instances of wilful denial of entitlements by the officials.

9.42 At the same time, the NREGS hinges on a demand-based entitlement system, which also does not work well due to low levels of awareness and organisation among the workers. The GBPSSI (2009) Study of six north Indian states reveals that only about half of the workers are aware that they are entitled to 100 days of work over the year. Similarly, a majority of the workers are not aware of other entitlements like minimum wages and the stipulation that wages are to be paid within 15 days. Findings from six states viz., Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan and Uttar Pradesh pointed out that a large majority of the NREGA workers belonged to the most disadvantaged groups, and most of them needed 100 days of work. Almost 50 per cent of the sample workers are willing to work throughout the year.

Some Operational Deficiencies

9.43 Field surveys point to the fact that on the three important process dimensions viz., participation, transparency and accountability, the general picture is fairly dismal, but balanced by signs of positive changes in many states. Several studies conducted in different states point out gaps in the performance of PRIs (gram sabha), vigilance committees, and such local institutions. According to the GBPSSI (2009) Study of six north Indian states, 54% of the respondents who attended Gram Sabha meetings conducted in the last 12 months stated that NREGA had been discussed, specifically on matters such as preparing a shelf of projects. In 33 % of the worksites in the same study, workers reported the formation of vigilance committees.

9.44 Several shortcomings identified vis-à-vis entitlements and processes are closely linked to the operational structures, which are meant to carry out functions with efficiency and effectiveness at different levels. For example, it is observed that at the Central Government level itself there are limited number of staff and senior level administrative supervision (one joint secretary) absorbed in day-to-day crisis management, with virtually no time and energy for putting in place durable systems and support structures for NREGA. The Central Employment Guarantee Council, whose expertise, advice and services could have been used effectively for enhancing the programme effectiveness, is virtually non-functional.

9.45 Absence of central coordination is also leading to confusion at the field level and it is evident from the field surveys that inflexibility or inability in implementation stems from interpretation (or lack of it) of the guidelines, rules and amendments which are passed down to the cutting edge staff. A closer coordination between the Central Government and the state governments is anticipated as often lack of clarity in rules and guidelines lead to inaction or inconsistency in application of rules.

9.46 It is also found that functionaries at the Gram Panchayat and Block levels tend to be thoroughly confused about their duties, and poorly informed about the recent changes in the Schedules, Rules, Guidelines, and so on. It is found in the field surveys that even persons in positions of high responsibility often lack a clear understanding of the operational framework of NREGA.

9.47 While NREGA is a national legislation, its implementation is state-specific. There have been major contrasts between the experiences of different states, and a large number of interesting state initiatives also emerged relating, for instance, to record-keeping, worksite management, transparency safeguards and social audits etc. Clearly, there is immense scope here for mutual learning. There appears to be no effort towards systematic institutional learning on the good practices of implementation across the country. Absence of such an opportunity for institutional learning would mean each state government undertaking stupendous task of going through the processes related to establishment of

operational procedures by themselves, often through trial and error.

9.48 In a programme of this nature, process evaluations become more meaningful than mere output and outcome measurements. This is because there is often a gap between the *de jure* rights (legally mandated) and the *de facto* rights (in practice). A quantity based MIS has a tendency to obliterate any information that points to a violation of the Act or Guidelines, as this would expose responsible officials to disciplinary action. To illustrate, the MIS routinely shows that the number of days of “employment demanded” is more or less (often exactly) the same as the number of days of “employment provided”. Yet independent studies, including those initiated by NCEUS, clearly show that the work application process is not in place. These operational lacunae thrown up by our studies need to be addressed in order to strengthen performance of the programme.

Recommendations

9.49 The Commission regards the NREGA as an important component of the full employment strategy for India. In our assessment, the impact of the NREGA in the first three years of its implementation have, on the whole, been positive but given the size and the several inter-related objectives of the scheme it needs to be carefully nurtured and strengthened, especially in the lagging areas and regions. The NREGA has now become the focus of a considerable amount of international and national attention and is being considered a significant route to expanding demand and creating a safety net in the context of the current global crisis. Following on our earlier recommendations and based on the studies sponsored by us and discussed in the preceding sections, the Commission proposes a number of specific recommendations as given in the following

Programmatic Recommendations

9.50 *Expand the List of Assets and Vest them with the Poor:* In view of the fact that NREGA provides an excellent platform for the productive asset creation, the Commission recommends that:

- The list of assets could be extended to include other developmental works that creates assets

which actually contribute to the long term development of the village.

- Control over the community assets created under NREGA and responsibility of maintenance should be vested with the workers (men and/or women) so that they will have long term stake. The community assets could be owned by the government and the surpluses generated could be distributed among the workers themselves.
- The assets could also be constructed on the land owned by marginal and small farmers belonging to deprived sections (apart from SCs and STs) to increase the productivity of their lands.

9.51 *Expand the Limit to Employment Days under NREGA:* In view of the growing demand for work among the poor and the vulnerable, the Commission strongly recommends expansion of limits on the employment days provided per household in the programme in the following ways:

- In the districts where more than 50% of the working population belong to the SCs and STs, or in distress situations of calamity or in districts where workers have already achieved the maximum days of work under the programme, the cap of 100 days of employment should be removed.
- Along with the above, employment guarantee should be made applicable for each individual. This would mean one hundred days of work with “one person-one job card-one bank account”. This would create tremendous scope for women’s empowerment.
- As already recommended by the Commission, NREGA activities should be taken up in class B and C municipalities as that would enhance employment opportunities in semi-urban localities.

9.52 *Improve Convergence with Other Departments & Dovetail with Other Programmes:* In order to improve the effectiveness of the public works programme and its potential to transform the rural asset base, the Commission recommends the following:

- Greater convergence of NREGA with the works carried out by the other development departments.

Integration of works with natural resource management and watershed development plans should be enhanced. Large scale NREGA works should be initiated on forest land in collaboration with the Forest Department with adequate environmental safeguards and transparency. Strict adherence to the guidelines for utilising the labour component of NREGA funds should be ensured.

- Coupling of work activities offered under the NREGA with provision of social services (e.g. involving workers in activities such as preparing meals for the Mid Day Meal Scheme, housekeeping services for primary health centres, care givers and helpers for crèche etc.) should also be explored.

9.53. *Strengthen Capacity Building of Workers & Institutions:* Given the extent of activities, the need for enhancing skills of implementation and support functionaries and that of communities are necessary. Towards this end the Commission recommends that:

- The scheme's guidelines should make provision of up-gradation of skills of women and men workers so that they may be able to take up skilled jobs in the implementation apparatus of the programme.
- Capacity building of communities and implementation machinery on participatory planning should be taken up in order to identify works and prepare plans for implementation. Dissemination of blue prints of activities in simple language would enable participatory planning with community members.

Strengthen Operationalisation

9.54 *Strengthen National Support Structures*

- Given the size of the programme and the enormity of the task at hand, the Commission recommends reconstitution and activation of National Employment Guarantee Council in order to provide leadership and vision for the programme.
- Similarly, a full fledged Employment Guarantee Mission (on the lines of health and education

missions) should be created in order to provide adequate support structures for the Central and state governments.

- The main provisions of the operational guidelines should be converted into binding rules (and in some cases appropriate amendments of the schedules of the NREGA).

9.55 *Enhance Administrative Expenditure Limits*

- Great concerns have been expressed from all the quarters on the low level of permissible administrative expenditure. The Commission is of the view that this may be raised from the current 4 % to 6% of NREGA funds and of this, 0.5% should be earmarked for transparency measures (including independent evaluation studies)

9.56 *Focus on Awareness Generation:* Critical element in demand generation for work is awareness among workers. Towards this end the Commission recommends the following measures:

- Having a mandatory 'entitlement page' on the job cards describing the entitlements in simple language.
- Simple primers and book-lets for awareness building for Gram Panchayats and Gram Rozgar Sevaks and other facilitators including NGOs.
- Active use of radio, audio and visual media.
- Encouraging submission of collective work applications by job seekers (appropriate forms should be designed for this).
- Involving premier institutions like National Legal Services Authority (NALSA) for enhancing legal literacy and awareness on entitlements and encouraging involvement of NGOs.

9.57 *Improve Worksite Management Practices:* Several improvements are needed for enhancing effective implementation. The Commission recommends the following:

- Provision for trained mates and adoption of "Rajasthan Model" of worksite management.

- Mandatory child care facilities should be provided at the work site.
- Provision of work for persons with disabilities and women in the management of mandatory worksite facilities (water, shade, first-aid and child care).
- Opportunities for “light work” on a daily-wage basis should be provided at every worksite for persons who are unable to meet the standard productivity norms due to old age, disability, illness, pregnancy and related conditions.

9.58 **Strengthen Transparency Safeguards:** Although NREGA is unique in the sense of creating mechanisms for transparency and accountability, there are still several lacuna identified in the implementation of the same. It is therefore recommended that:

- Strong transparency rules should be framed at the national level.
- Accountability should be clearly fixed for the implementation of specific transparency safeguards. Failure to implement these safeguards should attract an automatic penalty under Section 25 of NREGA.
- Mandatory daily signature (or thumb impression) of worker on the muster role should be enforced by way of marking attendance (as is the practice in the state of Tamil Nadu).
- Social audit rules should be framed and institutionalised across the country (building on the experience of Andhra Pradesh)
- Accessibility of all NREGA records for public scrutiny should be accorded at all levels within a stipulated time period (of seven days).

9.59 **Improve Bank Payment Modalities:** Ministry of Rural Development (MoRD) has made mandatory payments through Banks. It is a welcome move, as it has enabled financial inclusion of large sections of men and women workers. On the other hand, several measures are necessary to further transparency and efficiency. Towards this end the Commission recommends the following steps:

Payment Orders: A model Payment Order (PO) should be designed, posted on the NREGA website, sent to the state governments, and included in the next edition of the Operational Guidelines. All state governments should be instructed to use this model Payment Order (or an improved version of it).

Wage Slips: The use of “Wage Slips” (to be given to NREGA workers in public), recommended in the NREGA Operational Guidelines (Para 7.2.1.xi) should be mandatory. Alternatively, payments may be made through Account Payee cheques. The transparency norms applicable to wage payments in cash (payment in public, reading aloud of muster roll, updating of Job Cards, etc.) should be applicable to the distribution of Wage Slips or cheques.

Minimum Safeguards: The Reserve Bank of India should be requested to issue strict instructions to all banks on the payment of NREGA wages, including the following “*minimum safeguards*”:

- Amount should be withdrawn only in the presence of NREGA workers.
- Passbooks should be updated when money is withdrawn.
- All NREGA-related documents (including details of bank accounts of NREGA workers) maintained by the banks should be open to public scrutiny.
- Bank statements of Gram Panchayat accounts should be pro-actively disclosed at the end of each financial year.

MoUs with Banks: Similar instructions should be issued directly by the MoRD, e.g. in the form of a clarification (addressed to the banks) about the terms and conditions under which they are expected to handle NREGA funds and payments to NREGA workers. State governments should be encouraged to sign explicit MoUs with the banks, incorporating these minimum safeguards.

Improved Guidelines & Rules: Section 7.2 of the NREGA Operational Guidelines, dealing with bank payments, should be improved in the light of recent experience and converted into Rules.

9.60 *Set up an Independent Grievance Redressal System:* The Commission identified the necessity to set up mechanisms for addressing grievances. The following steps should be taken up in this regard:

- Strong grievance redressal rules should be framed at the national level. The provisions therein should include; setting up of district level grievance redressal cells to adjudicate and monitor redressal of complaints, setting up of toll-free help lines at the district level and monitoring of redressal (with adequate publicity on this measure) etc.
- Similarly, the Central and state governments should frame rules for activation of penalty provisions under Section 25 of NREGA.
- Expansion of 'Lok Adalats' on NREGA may be explored, as it is currently being experimented in some locations.
- Full time ombudsman for NREGA may be institutionalised.

9.61 *Improve Administrative Wherewithal*

- All vacant posts should be filled up, ensuring that each block will have full time programme officer (at the rank of block development officer).
- For hiring skilled staff for the programme, the following amendment of Schedule I may be considered for this purpose:

Subject to norms specified by the Central Government, the following categories of skilled labour may be employed by State Governments on a daily-wage basis (up to 365 days a year): Gram Rozgar Sevaks; technical assistants, trained mates; data entry operators; social auditors; child-care givers. A portion of their wages, equal to the wage earned by unskilled workers, will be paid by the Central Government.

- Key functionaries involved in NREGA (including Gram Rozgar Sevaks, Panchayat Sevaks, Programme Officers, mates, etc.) should have clear

"Job Charts" specifying their duties. Failure to perform one's duty as per the Job Chart should attract penalties under Section 25 of the Act.

- The support structures developed under the Employment Guarantee Mission should include a Training Unit, to facilitate the development of first-rate training resources as well as wide dissemination of the best training modules from different states.

9.62 *Improve Gender Sensitive Implementation:* Evidences point towards the positive impact of NREGA in altering gender relations in the rural areas. The Commission, based on the evidences, so far recommends the following measures to further the goals of gender sensitive programme implementation:

- **33 per cent participation of women:** Proactive measures by the state governments for fulfilling the mandate of 33 per cent norm of women's share of NREGA should be enforced forthwith. Incentive and dis-incentives should be developed for enhancing women's participation in NREGA.
- **Equal participation** of women in NREGA should be promoted at all the levels, not just in terms of labour participation at the worksite. "Fifty per cent" should be the standard minimum target for women's share of NREGA posts, e.g. Programme Officers, Gram Rozgar Sevaks, trained mates, social auditors, data entry operators, junior engineers, technical assistants, and so on.
- **Single women:** Widows, separated women and other single women should be entitled to separate Job Cards irrespective of their living arrangements.
- **Bank accounts:** Payment of women's wages through men's (e.g. their husbands') bank accounts should be prohibited. Women workers should have their own bank accounts, or, at the very least, be equal co-signatories of joint accounts (e.g. husband and wife).
- Breast feeding breaks should be incorporated into the work schedule of women at NREGA worksite.

9.63 *Other Recommendations:* There are a few other issues that merit attention of the policy makers in order

to streamline the functioning of NREGA. The Commission recommends:

- Review of entire record-keeping system for streamlining and capturing some of the critical elements like delays in payment etc.
- Separate funds (at least 3%) should be earmarked for employment of persons with disabilities as per the guidelines.
- Employment should be made available on the daily wage basis for persons who are unable to meet the standard productivity norms due to disability, old age, illness, pregnancy, etc.
- Professional technical support team should be made available at the district and block levels to support the implementation of NREGA.
- A national minimum wage should be introduced in place of current freeze on wage rates.
- Rules should be framed for payment of unemployment allowance in case the officials fail to provide employment. Officials who refuse to accept written applications from job seekers should be liable for punishment under Section 25 of NREGA.

Conclusion

9.64 NREGA is undoubtedly the most important productive employment programme in independent India. It has acquired the much needed political legitimacy and appears to have secured a stable place in the Indian economic and social policy for many years to come. Under implementation for the past three years, the programme has demonstrated varying degrees of success across the country and has been able to substantially silence its sceptics. Evidence points towards a positive trajectory of

the programme meeting its objectives. Increasingly, scholars and policy makers are convinced of the potential of NREGA and its role in inclusive development goals of the country.

9.65 However, at the operational level its achievements are still short of its potential, overall. This chapter has attempted to distil experiences of the NREGA based on the studies commissioned by the NCEUS as well as by other agencies and scholars. We have identified critical issues and concerns that need immediate attention from the policy makers and implementers. Specific recommendations have been offered for the consideration of the Central and state governments.

9.66 A central requirement in the NREGA is the creation of appropriate structures and capacitating the same for effective implementation of the programme. However, we find the implementation apparatus to be inadequate and ill-capacitated. We have identified this as an important reason for several operational lacunae. To overcome this obstacle, we have recommended a strengthening of the national, state and local support structures. We have also underscored the need for participatory planning which should allow for asset creation with distributive benefits under the scheme. Creating adequate technical capacities at the field level is also identified as critical for the success of NREGA. Lack of overarching and mandatory framework and rules for transparency and accountability are also impinging on the programme, as are delays and discrepancies in wage payment. If only there is sufficient overhaul of the scheme's implementation through a variety of instruments – increased awareness among workers, expanded scope of the works, efficient worksite management, grievance redressal mechanisms and gender sensitivity in planning and implementation of work – will the scheme be able to truly take off.

10

An Employment Strategy for Agriculture Centred on Marginal & Small Farmers

Introduction

10.1 Agriculture is the primary source of employment in India especially in the rural areas. As per the NSSO 2004-05 Employment–Unemployment Survey, nearly 57 per cent of the total employment and 73 per cent of rural employment is generated in the agricultural sector.

10.2 In some countries ‘unorganised workers’ or ‘informal workers’ are identified as the urban self-employed and in some others they include the urban self-employed as well as the urban casual workers. This Commission has taken a broader view by extending the definition to the rural economy in general and agriculture in particular because, if informality is used to denote the unprotected nature of work, the rural workers are equally vulnerable. Moreover, rural economy in India is more dominated by self-employment than the urban one. As such, the Commission has examined the conditions of work and livelihood issues of agricultural workers in the same spirit as it did with regard to its earlier report on social security. By common practice, unless otherwise specified, agriculture refers to crop cultivation, forestry, fishing, hunting and livestock rearing. For the sake of brevity and common usage, self-

employed in agriculture are referred to as farmers and wage workers as agricultural labourers. Together they are referred to as the agricultural workers.

10.3 The total number of agricultural workers in India has been estimated at 258 million as of 2004-05. About 248 million of the total rural workforce of 341 million are in rural areas. Agricultural production takes place largely on individual or joint holdings. Except for the segment of agriculture which comes under plantations and those covered by corporations and large cooperatives in the organised sector, the Commission has categorised the remaining parts as the unorganised agriculture sector. The share of unorganized sector agricultural workers in the total agricultural workers was 98 per cent during 2004-05. Nearly two-thirds of the agricultural workers (64 per cent) are self-employed, or farmers as we call them, and the remaining, a little over one-third (36 per cent), wage workers. Almost all the wage workers (98 per cent) are casual labourers. Farmers are a group which could be differentiated by size of land holding as a good proxy. Given the overwhelming dominance of the unorganized sector in agricultural employment, we have dealt with the sector as a whole. But as

elsewhere in the Commission's work, we focus on the more vulnerable segments of the workforce, viz., labourers or marginal and small farmers.

Employment Potential of Indian Agriculture

10.4 While agriculture no longer dominates the Indian economy in terms of national output, it is still predominant in terms of employment. However, in line with development expectations, the share of the agricultural workforce has declined gradually during the last two decades with diversification of the rural employment into non-agricultural activities. But agricultural workers still constituted as high as 56.6 per cent of the total workers in 2004-05, down from 68.5 per cent in 1983. In rural areas, agricultural workers constituted 72.6 per cent of the total workers in 2004-05, down from 81.6 per cent in 1983. The decline during this period has been rather slow. Nevertheless, it is significant from a historical point of view when the rural economy was synonymous with agriculture. The situation is still one of overwhelming presence of agriculture but the signs of economic diversification are quite strong, albeit, slow with distinct regional variations. As we have shown in NCEUS (2007b), as of 2004-05, there are at least five states, which have achieved a broad structural transformation in the sense that agriculture's share accounts for less than 50 per cent in both income and

employment. At the other extreme, there are seven states with an overwhelming burden of employment in agriculture to the extent of 66 to 75 per cent. In the remaining fifteen states structural transformation is round the corner for at least the one-third.

10.5 The overall structural change in employment has occurred as a result of the slower growth of employment in the agricultural sector vis-à-vis the total employment. Over the last two decades the agricultural workforce grew at 1.04 per cent per annum while the total workforce grew at 1.94 per cent per annum (Table 10.1). During 1983-2004/05, female agricultural employment grew at a rate faster than male agricultural employment. A comparison of employment growth rates between 1983/1993-94 and 1993-94/2004-05 shows that the growth rate of agricultural employment decelerated sharply in the last decade, from 1.38 per cent to 0.72 per cent. Although the growth of total employment also declined from 2.03 per cent during 1983/1993-94 to 1.85 per cent during 1993-94/2004-05, the deceleration was clearly not so sharp as in the case of agricultural employment. It is obvious from these results that there is a gradual decline in the potential of the agricultural sector to absorb the incremental workforce. Further, structural constraints appear to be restricting the scope of women's employment outside agriculture, confining them primarily to this sector. We return to this issue later in this chapter.

Table 10.1: Growth Rate of UPSS Agricultural and Total Workers (Percentage)

Sector	Sex	Industry	1983 / 94	1994 / 05	1983 / 05
Rural	Male	Agriculture	1.46	0.42	0.93
		Total	1.94	1.41	1.67
	Female	Agriculture	1.23	1.25	1.24
		Total	1.37	1.57	1.47
	Total	Agriculture	1.37	0.75	1.05
		Total	1.73	1.47	1.60
Total	Male	Agriculture	1.48	0.39	0.92
		Total	2.24	1.87	2.05
	Female	Agriculture	1.22	1.20	1.21
		Total	1.62	1.82	1.72
	Total	Agriculture	1.38	0.72	1.04
		Total	2.03	1.85	1.94

Note: UPSS: Usual Principal and Subsidiary Status.

Source: NSSO 38th, 50th and 61st Round Survey on Employment-Unemployment. Computed.

10.6 Despite the slower employment growth than in other sectors, agricultural sector (including the allied sub-sectors) continues to show a reasonable potential to absorb workers (given its existing large employment base), although with fluctuating trends. We have computed trends in employment, employment per acre, productivity per worker, and agricultural growth, and employment elasticities for three points of time (1983, 1993-94, and 2004-05) and two sub-periods (1983 to 1993-94 and 1993-94 to 2004-05). We have used two different concepts of employment - the Usual Status variant, extensively used in this and earlier reports, and that based on the Current Daily Status (CDS), the latter being more relevant than the former while analyzing labour absorption in agriculture, in crop cultivation in particular.

10.7 During this entire period (1983 - 2004/05) agricultural GDP grew at an annual rate of 2.58 percent, higher at 2.63 percent in the first period (1983 - 1993/94) than in the second (2.52 % during 1993/94 - 2004/05) (Table 10.2). Employment in agriculture (UPSS) grew at a fairly high rate of 1.04 percent over the entire period, declining from 1.38 percent per year in the first period to 0.72 percent per year in the second period. Employment elasticity of agricultural growth was estimated at 0.40 for the entire period and 0.52 and 0.28 respectively in the two sub-periods.

10.8 A similar picture emerges when we analyse the CDS employment data. Employment in agriculture (CDS) also registered a growth rate of 1.78 percent overall, 2.77 percent in the first period and 0.85 percent in the second. Employment elasticity in the second period was close to half of the level in the first period - 0.82

percent in the first period and 0.36 percent in the second period.

10.9 The two large sub-sectors in agriculture are the crop sector (including plantations) and animal husbandry. The NSSO provides estimates of CDS employment by type of employment (manual/non-manual) and sub-sectors, enabling us to estimate the employment by sub-sectors. Since the non-manual employment estimates are separately available only for two groups, cultivation and activities other than cultivation, we discuss here the estimates of manual employment in cultivation activities and animal husbandry. In terms of (gross) value of output, the crop sector grew at an annual rate of 2.21 percent during 1983 - 2004/05 while the livestock sector grew at an annual rate of 3.93 percent per annum. Employment in the crop sector grew at 1.29 percent per year in this period, while the livestock sector experienced an annual employment growth rate of 2.59 percent per year. Thus, the livestock sector experienced both a faster rate of output growth as well as employment growth. Employment elasticities were reasonably high in both sub-sectors, but was higher in the livestock sector (Table 10.3). In cultivation, the employment elasticity was 0.56 in the first sub-period, 0.60 in the second sub-period and 0.58 for the entire period. In the livestock sector, employment elasticity was 0.70 in the first sub-period, 0.63 in the second sub-period and 0.66 in the entire period.

10.10 We have also estimated employment in cultivation per hectare (net and gross) sown. Between

Table 10.2: Annual Growth (percent) in GDP, Employment & Employment Elasticities in Agriculture

	1983 to 1993-94	1993-94 to 2004-05	1983 to 2004-05
Growth in Agriculture GDP	2.63	2.52	2.58
Growth in Employment (UPSS)	1.38	0.72	1.04
Employment Elasticity (UPSS)	0.52	0.28	0.40
Growth in Employment (CDS)	2.77	0.85	1.78
Employment Elasticity (CDS)	0.82	0.36	0.62
Growth in Employment (MCWS)	2.17	0.34	1.23
Employment Elasticity (MCWS)	0.84	0.32	0.58

Source: National Accounts Statistics and NSSO 38th, 50th and 61st Round Survey on Employment-Unemployment. Computed.

1993 and 2004-05, manual employment per hectare increased from 341 to 389 in the case of net sown area and from 260 to 288 in the case of gross sown area (Fig. 10.1). These estimates show that despite countervailing labour displacing tendencies in Indian agriculture, there has been some increase in labour absorption in agriculture.

10.11 The fact that agriculture continues to absorb more workers can be of little consolation unless it can also be shown that such increased employment is also accompanied by higher incomes and productivity per worker. Since agricultural GDP grew at a rate faster than the growth in employment, agricultural GDP per worker (a measure of labour productivity) also increased at an

respectively (Table 10.4). Thus, agricultural productivity has not remained entirely stagnant but has grown slowly with a decline in growth rate in the second period (1993-94 to 2004-05). These results also hold for the two major sub-sectors viz. crop and livestock. While the livestock sector shows a higher growth rate in labour productivity over the entire period, both the sectors show lower rates of productivity increase in the second period.

10.12 This rate of improvement is certainly far from adequate to bring about a sustained and rapid improvement in the living conditions of agricultural workers. The result of this has been a steady widening of the disparity in the income generated per worker in agriculture and in the other sectors.

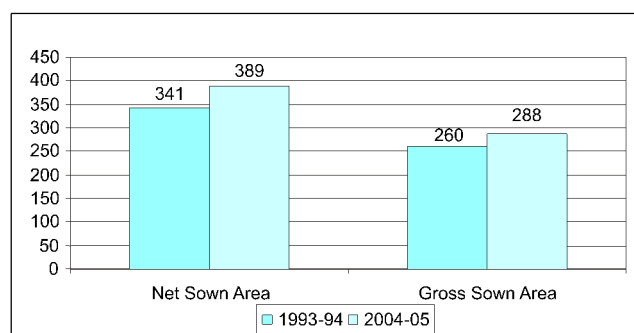
Table 10.3: Annual Growth in GDP & Employment (CDS) (percent) & Employment Elasticities in Crop Cultivation and Livestock

	Crop Cultivation			Livestock		
	1983 to 1993-94	1993-94 to 2004-05	1983 to 2004-05	1983 to 1993-94	1993-94 to 2004-05	1983 to 2004-05
Growth in GDP from Agriculture	2.59	1.87	2.21	3.38	4.43	3.93
Growth in Employment	1.46	1.12	1.29	2.36	2.81	2.59
Employment Elasticity	0.56	0.60	0.58	0.70	0.63	0.66

Note: The Agricultural GDP for 1983-84 was divided between crop and livestock in the ratio of output.

Source: *ibid*

Fig. 10.1: Manual Employment Days per Hectare (CDS)



Source: Ministry of Agriculture & Commissions Estimates

annual rate of 1.52 per cent for the entire period and 1.24 percent and 1.79 percent in the two sub-periods

10.13 Agricultural GDP per worker as a percentage of industrial GDP (Fig. 10.2) declined from 30.65 in 1983 to 25.4 in 2004-05. As a percentage of service sector GDP per worker, agricultural GDP per worker declined from 25.05 in 1983 to 16.5 in 2004-05. This widening gap is naturally a matter of great concern.

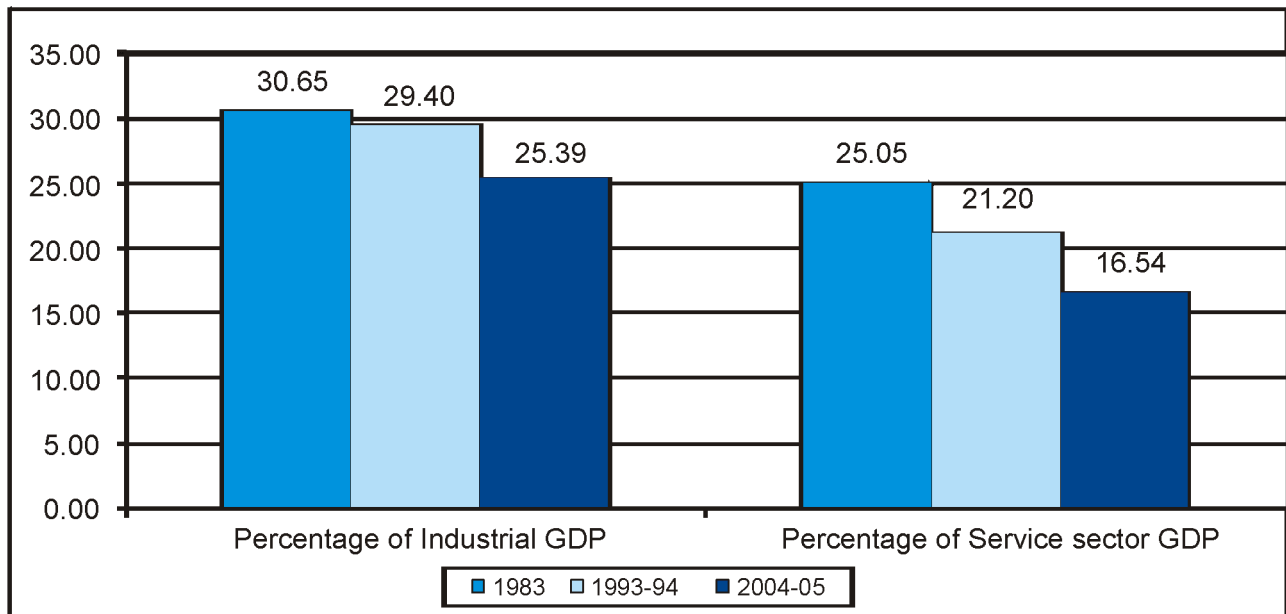
Table 10.4: Annual Growth in Labour Productivity (percent)

	1983 to 1993-94	1993-94 to 2004-05	1983 to 2004-05
Agriculture, Forestry & Fishery (UPSS)	1.24	1.79	1.52
Crop Sector *	0.31	0.68	0.50
Livestock Sector *	3.74	-1.33	1.11

Note: * Based on Current Daily Status (CDS)

Source: same as in Table 10.2

Fig 10.2: Ratio of Agriculture GDP per Worker



Source: same as in Table 10.2

10.14 It is widely recognized that in the past decades (60s to 80s), agricultural employment increased primarily as a result of land augmenting technological changes, propelled by the enhanced investment in irrigation and supporting institutions and policies. These changes made possible increases in both the sown area through higher cropping intensity as well as greater labour use per sown hectare, although this increase took place at different time periods, in different regions and across different size classes of farmers. Simultaneously, there has also been a fairly dramatic growth of employment in the non-crop agricultural sub-sectors such as dairy farming and livestock.

10.15 Recent studies have shown a decline in the public support available to agriculture and a petering out of the impetus of such technological changes. Moreover, agricultural growth has been acquiring a more labour saving character. The relatively faster growth of the (unorganised) non-farm sector has also provided some scope for the limited occupational diversification that has occurred. At the same time, one must recognise that if the non-farm sector does not provide adequate remunerative employment opportunities, and if the agricultural sector does not grow fast enough, parts of this sector may show features of agricultural involution, with the sector retaining a

growing part of the workforce through fragmentation and sharing of work, with little improvement in productivity or agricultural incomes. These issues need to be examined in some depth as they determine the contours of an agricultural employment strategy.

Growth Potential of Indian Agriculture

10.16 There is a well established dictum that agriculture being subject to diminishing marginal returns and industry being subject to increasing returns to scale, the transfer of workers from the former to the latter is likely to be accompanied by increasing worker productivity and incomes. As a matter of fact, as this Commission has shown in this Report, the organized industry in India (and more generally the organized sector) has failed to absorb workers on a large scale and the main alternative course to such workers is to be absorbed in the non-farm informal sector. We have earlier (NCEUS 2007a, NCEUS 2008b) analysed in detail the conditions of work in this sector and have shown the various constraints operating on it. This as well as the earlier reports of the Commission have highlighted strategies to ease these constraints and promote productive employment in the sector. With respect to the agricultural sector, we advocate a two-fold strategy of enabling workers from agricultural households to diversify their economic portfolio, while at the same time, improve agricultural growth and incomes.

10.17 There is clear evidence that in recent years, agricultural growth particularly in food grains has declined. This has had an adverse effect on the growth of agricultural wages that have shown signs of deceleration in the nineties making the situation even more unfavourable for the agricultural labourers. On the other hand, farmers, particularly the marginal and small farmers, are also facing a crisis due to increasing input costs and uncertain output markets. In these conditions government support in the form of policy initiatives and schemes to protect the interest of agricultural workers becomes even more pertinent. However, in the post-nineties period, there has been a decline in government support in the form of declining investment in agriculture and subsidies to the sector are also being rationalized. The withdrawal of the state has led to a much greater dependence on private sources for inputs, extension, markets and credit. Farmer suicides have been widespread in the last several years and the victims have largely been marginal and small farmers. Increasing costs of cultivation leading to higher indebtedness, crop failures and incapacity to face price shocks with greater liberalization of the agricultural sector have driven farmers to the extreme. This has prompted the Central and state governments to set up several commissions including the National Commission on Farmers and the Committee on Agricultural Indebtedness to suggest remedial steps.

10.18 Agricultural policy followed during the last five decades can be broadly classified into three phases. Phase one, immediately after independence, witnessed several institutional changes through land reforms and initiation of major irrigation projects. The second phase, since the mid-sixties, was aimed at increasing agricultural productivity to attain self-sufficiency in food grains through technological revolution and public support to credit, marketing, extension etc. This was followed by the current phase, since the late eighties, aimed at making agriculture more market oriented.

10.19 Several studies in the 1960s and 1970s averred that the Green Revolution had a scale, size and capital bias and small and marginal farmers could not make the most of it. Despite this view, productivity gains were gradually realized even among the small and marginal farmers as indicated by the high, sustained agricultural

growth through the eighties which also spread to several agriculturally stagnant areas. The main reasons for this spread appear to be that the new agricultural technologies were divisible, and the government pro-actively fostered the spread of credit, marketing and extension institutions and also facilitated their adoption by small and marginal farmers. An important role in the consolidation and spread of agricultural growth was also played by the special programmes, which were initiated by the government from time to time. The Small Farmers Development Agency (SFDA) programme was instituted in 1971 with the objective of assisting marginal and small farmers to raise their income levels by helping them to adopt improved agricultural technology and acquire means of increasing agricultural production like minor irrigation sources on the one hand, and to diversification of their farm economy through subsidiary activities like animal husbandry, dairying, horticulture etc, on the other. Two area based programmes, namely the Drought Prone Area Programme and the Desert Development Programme were started with a view to encouraging sustainable resource management and agricultural development in specific agro-ecological settings. The Million Wells Scheme was introduced with the prime objective of catering to the irrigation needs of the small and marginal farmers to increase the productivity of their holdings. Although the scheme faced various impediments, it has contributed to increasing the irrigation potential of the small/marginal farms. A review of agricultural policy however shows that no notable efforts have been made over the last decade or so to overcome the handicaps faced by the marginal and small farmers.

10.20 Since the nineties it has been noticed that the productivity gains from the Green Revolution have started receding. The agriculture sector in general, particularly the crop sector, is going through a slow down. Among other factors, it has been indicated that the change in the priorities and stance on state support has had adverse effects on the development of rural areas in general and agricultural sector in particular. The gains to the sector visualized through improved terms of trade, with the removal of the bias against the sector after the process of liberalization was initiated, have not emerged while increasing price volatility has added to the vulnerability

of the farmers. High level of distress and rising indebtedness (to informal sources) have been witnessed among the farmers across a number of states. The small and marginal farmers, given their poor economic conditions, failed to overcome the seasonal and price shocks and are caught in a vicious circle of indebtedness as they have to take loans to meet their consumption needs, which is causing immense distress among them.

10.21 In the liberalised scenario and with increased integration with the global markets it has become even more imperative to protect the interests of the marginal and small farmers through measures that help promote and stabilize incomes, reduce risks and increase profitability and at the same time improve availability and access to inputs, markets and credit. However we have observed that the dependence on private sources for inputs, irrigation and most importantly, for credit among the small and marginal farmers has increased in recent years reversing the earlier trend towards expansion in access.

10.22 The shift in the policy stance is also underwritten by the ambiguity regarding the growth and employment potential of Indian agriculture in general and small farmers in particular. As an example, the Tenth Plan Mid Term Review, while recognizing the production slack (on the supply side), noted that there are sharp demand side constraints (both domestically and internationally) which may be overriding on Indian agriculture. As mentioned earlier, the manifestations of the agricultural crisis have prompted the Central Government to set up various commissions and committees to explore the potential of agriculture through an appropriate institutional and policy matrix. All these reports are predicated on the assumption that agriculture continues to have considerable growth potential (a target of 4 percent rate of growth during 2007-2012) provided the right kind of steps are taken. The upturn in agricultural growth in the recent period seems to confirm these expectations. Below, we briefly review some of the analyses and measures taken.

Recent Initiatives in Agriculture

10.23 The Government constituted the National Commission on Farmers (NCF) under the chairmanship

of Dr. M.S. Swaminathan to specifically look into all aspects concerning the protection of the interest of farmers. The key recommendations of the NCF are summarised in its proposed National Policy for Farmers. The document recognizes the misery of the poor farmers and observes "agriculture has become a relatively unrewarding profession due to generally unfavourable price regime and low value addition, causing abandoning of farming and increasing migration from rural areas....". According to the NCF, several factors contributed to this situation. These include shift in the cropping pattern towards cash crops, lack of level playing field for farmers in the global market, increased dependence on high-cost inputs which increase the costs of cultivation and indebtedness, increasing risks, declining profitability and declining public support. In this context, the NCF has noted that the Government had initiated a number of measures such as Bharat Nirman, NREGA, expansion of credit at lower rates of interest, promotion of horticulture, fisheries, changes in the Agriculture Produce Marketing Committee Act (APMC) etc. But most of these measures are still in the initial stages. The NCF has also recognised the need for a social security system and has endorsed the recommendations of the NCEUS in this regard.

10.24 The NCF recommendations cover a variety of issues. Some of the key recommendations are:

- Setting up sophisticated soil testing facilities and issue of soil health passbook to every farmer.
- Setting up the Rain-fed Area Authority and convergent measures for water conservation.
- Developing a cadre of rural farm science managers at the panchayat level and strengthening lab-to-land interactions.
- Developing computerised farm advisory services through the Every-Village-a Knowledge- Centre-Movement.
- Promotion of commodity based farmers' organisations to combine the advantages of decentralised production with economies of scale in post-harvest management, marketing etc.

10.25 The Eleventh Plan Steering Group on Agriculture (Planning Commission 2007b) and the Planning Commission's note to the National Development Council have also amply recognised the adverse conditions faced by agriculture and have advocated detailed strategies to reverse the downturn. The Eleventh Plan has targeted a 4 per cent rate of growth of agriculture. It recognises that even this ambitious rate of growth will not reduce the gap between agricultural and non-agricultural workers unless the pressure of the workforce on agriculture reduces. The Plan also recognises that there could be both demand and supply side factors constraining the growth of agriculture. Among the main supply side factors constraining the growth of agriculture, the Plan emphasises the role of technology and public investment, given that both of them had slackened during the preceding decade. The Plan also highlights the imbalance between irrigated and rain-fed areas.

10.26 The Plan further emphasises the role of marginal and small farmers and spells out a number of areas, including land reform which could address the constraints faced by these farmers. It also acknowledges the growing feminisation of agriculture. While building up on the programmes launched during the 11th Plan, the recent strategy for agricultural development is underpinned by four major programmes/schemes: Watershed Development which aims mainly at water stressed rain-fed areas; the Accelerated Irrigation Benefit Programme, the National Agricultural Development Programme, and the National Food Security Mission (GOI 2007). Meanwhile the Ministry of Agriculture has enunciated a National Policy for Farmers (MoA 2007a) and a detailed Action Plan required (MoA 2007b). These steps are expected to place agriculture on a sustainable high growth path, simultaneously improving the lot of the farmers.

10.27 The **National Agricultural Development Programme (NADP)** or the **Rashtriya Krishi Vikas Yojana (RKVY)** represents a new decentralized and bottom-up approach to agricultural planning which the states can use to strengthen agriculture. The programme has emerged from the deliberations of the National Development Council which has called for a new Additional Central Assistance Scheme to the State Plans,

over and above the existing schemes to enable them to draw up comprehensive plans, suited to the local needs, to develop agriculture more comprehensively. The RKVY assistance would be in the form of a 100 per cent grant. The states are required to prepare the agriculture plans for the districts and the state to comprehensively cover resources and indicate specific action plans. Convergence with other schemes of the GOI is proposed under the RKVY. The programme is available to the states in two streams. Stream I would consist of specific projects. Stream II would be available for strengthening existing state schemes and for filling the gaps. The requirements for the RKVY would be assessed on the basis of the District Agricultural Plan (DAP) and the State Agriculture Plans (SAP). These plans would cover the agriculture and allied sectors comprising animal husbandry and fishery, minor irrigation projects, rural development works, agriculture marketing schemes and schemes for water harvesting and conservation etc. keeping in view the natural and technological possibilities in each district.

10.28 The **National Food Security Mission** has been launched as a Centrally Sponsored Scheme with the aim of increasing the production and productivity of some major food crops (rice, wheat and cereals) on a sustainable basis so as to ensure food security of the country. The production of rice, wheat and pulses is targeted to increase by 10 million tons, 8 million tons and 2 million tons respectively by the end of the Eleventh Five Year Plan. The approach is to bridge the yield gap in respect of these crops through dissemination of improved technologies and farm management practices. The scheme will focus on districts which have high potential but relatively low level of productivity at present. The mission aims at achieving its objectives through promotion and extension of improved technologies i.e. seed, Integrated Nutrient Management including micronutrients, soil amendments, Integrated Pest Management and resource conservation technologies along with capacity building of farmers. The scheme will be implemented through the Agricultural Technology Management Agency (ATMA) at the district level. The selection of beneficiaries and the identification of priority areas will be done by the PRIs. At least 33 per cent of the beneficiaries would be from small/marginal farmers.

The allocation to SC/ST farmers would be in proportion to their population in the district. A beneficiary farmer would be entitled to avail assistance for area up to 2 hectares.

10.29 **The Macro Management of Agriculture Scheme**, a centrally-sponsored scheme which became operational in 2000-01 after the merger of 27 schemes, has been revamped in the light of the other initiatives taken in this plan. The scheme provides sufficient flexibility to the states to develop and pursue the programmes on the basis of their regional priorities. Ninety per cent of the cost of the scheme is borne by the Centre. Revised guidelines for the scheme have been issued in July 2008, with respect to coverage and other issues in order to avoid overlap with other new schemes/programmes launched by the Government of India and to bring uniformity in the cost and subsidy structure of the MMA with other schemes. The inter-state allocation under the scheme will now give a 50 per cent weightage to percentage of area under marginal and small farms. Thirty-three per cent of the expenditure under the scheme will be on marginal-small and women farmers, with the share of expenditure allocated to SC/ST farmers in proportion to their population. The list of sub-schemes under the MMA have now been pruned to 11, and 15 components have been identified for financial assistance. These include distribution of hybrid/HYV seeds; distribution of seed mini-kits and micro-nutrients; demonstration of improved packages; promotion of agricultural mechanization; training of farmers; skill development, etc.

10.30 **The National Policy of Farmers, 2007**, has laid down an overarching blueprint for the growth of the entire farming sector. The basic objectives of the policy are to improve the livelihood, income and social security of the farmers, giving due weightage to the human and gender dimensions. The policy gives key place to asset reforms including land, water, livestock, fisheries, and bio-resources and animal genetic resources. It looks at the ways of strengthening the range of support services, in farmer-centric and gender sensitive ways. The policy also suggests participation in group approaches such as co-operatives, SHGs, small holder estates, farmer

companies, and contract farming as the future of Indian farming.

10.31 It will be noted that these programmes and policies cover the entire agricultural sector and do not focus on marginal and small farmers alone. The NFSM and the MMA do set targets for marginal and small farmers but these are pegged at one-third (against their overall share of 80%). *With the marginal and small farmers constituting the majority of farmers in the country, accounting for a substantial proportion of operated area, and with mounting evidence of an agrarian crisis, especially affecting marginal and small farmers, there is a special requirement to focus on these farmers*

Dimensions of Marginal/Small Farming in India

10.32 As pointed out by this Commission, at all India level, more than 80 per cent of the farmers belong to marginal and small farm size groups, owning or operating less than 2 hectares of land. The percentage of marginal and small farmers in the total, and also the land operated by them has steadily increased over time. The percentage of marginal farmers has gone up from nearly 38 per cent in 1953-54 to about 70 per cent in 2002-03. The share of marginal and small farmers in owned land went up from 16.3 per cent in 1953-54 to 43.5 per cent in 2002-03. A similar pattern in the land distribution is discernible in case of operational holdings also. By 2002-03, the marginal and small farmers accounted for nearly 80 per cent of operational holdings as compared to about 61 per cent of 1960-61. The small holding character of Indian agriculture is much more prominent and pertinent today than ever before. Nonetheless, we still need to reckon with considerable inequality in land ownership and operation. Medium and large farmers (6 per cent of the farmer households) operate more than one-third of the total operated area while large farmers (0.9 per cent of the total) still operate 13.1 per cent land.

10.33 Inter-state analysis indicates that the marginal and small farmers as a group outnumber the rest of the farmers in all the states. In twelve out of 27 states marginal and small farmers constitute the overwhelming majority of farmers, accounting for 90 per cent or above. While marginal and small farmers outnumber the

medium and large farmers in all states, in 17 out of 27 states they also account for more than 50 per cent of the land possessed for cultivation.

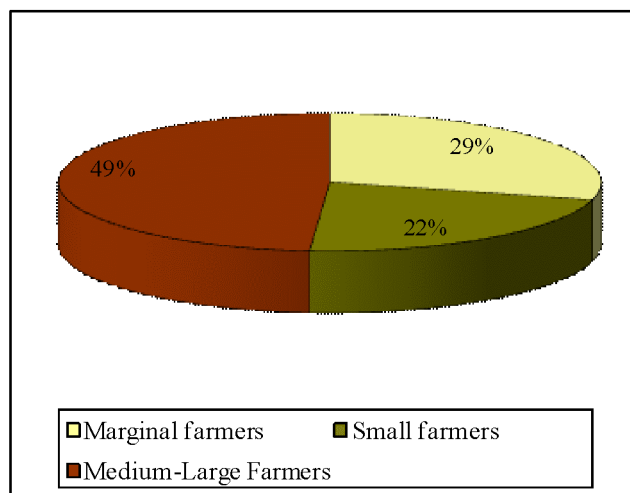
10.34 Within the group of marginal and small farmers, marginal farmers outnumber small farmers ranging from 2:1 in states with low incidence of marginal and small farmers to as high as 18:1 in Tripura, 12:1 in Uttarakhand and 10:1 in West Bengal, and Kerala and close to 8:1 in Bihar. The predominance of marginal farmers is significant because farming then becomes only one of the sources of livelihood for these households, often much more than that of small farmer households. A foothold in land cultivation is seen to be so crucial by these households for the security it provides in terms of food, some collateral and a source of employment when alternative opportunities become so far and few. The importance of a livelihood approach to the marginal and small farmers can hardly be underrated.

10.35 It is further important to note that the smallholders' contribution to the total value of crop output exceeds 50 per cent nationally although the share of land possessed is somewhat lower at 46 per cent (Fig. 10.3).

10.36 Only ten states show the contribution of marginal and small farmers at less than 50 per cent of output. It varies widely across the states, ranging from about 19 per cent in Punjab to 86 per cent in West Bengal. It is less than half the total output in only a handful of states in the North-west (Punjab, Haryana and Uttarakhand), Centre-West (Rajasthan, Gujarat, Maharashtra and Madhya Pradesh) and South (Andhra Pradesh and Karnataka). But their share in production is often higher in proportion to their share in operational crop land.

10.37 Thus it can be seen that the importance of marginal and small farms varies significantly among regions and states. In the eastern states, these farms form not only an overwhelming proportion of all the farms but also account for most of the area as well as production. In the Central, Western and North-western regions, medium and large farms are still dominant in terms of area and also production. It is also pertinent to note that some of these regions lack irrigation and are rain-fed, and so farm productivity is also low.

Fig. 10.3: Share of Marginal, Small and Large Farmers in Total Output in 2002-03



Note : Regular includes salaried.

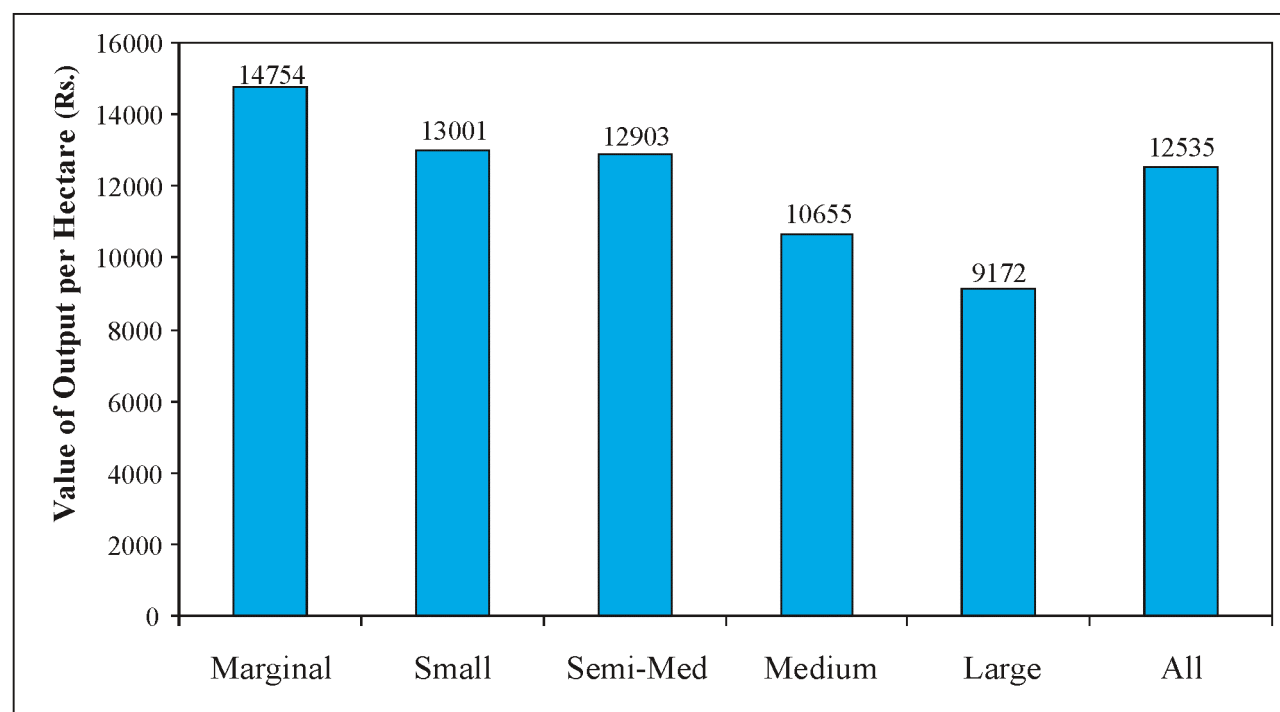
Source : NSSO 38th, 50th and 61st Round Survey on Employment-Unemployment. Computed.

Productivity Levels

10.38 We have shown that the per hectare value of output from small farms is, in general, still not less than that from large farms. The NSSO 59th Round Farmers' Survey has empirically established that small farms continue to be produce more (in value terms) per hectare than their larger counterparts in the country as a whole (Fig. 10.4) as well as in most parts of the country. Small farms are characterized by applications of smaller capital, but higher labour and other inputs, especially owned ones, and are generally characterised by higher index of cropping intensity and diversification. With appropriate institutional support including credit, it has been possible for small farms to catch up and in some cases; even surpass large farms in use of the HYV and other land augmenting technologies.

10.39 However, we have also highlighted that higher yields on small farms are, in most cases, not enough to compensate for the disadvantage of the small holdings - partly also due to high costs of production per unit. Therefore, the disparities in absolute incomes between various farm sizes are found to be very high and may have increased over time.

Fig 10.4: Value of Output per Hectare (Rs.) 2002-2003



Source: ibid

Increasing Role of Women in the Farming Community

10.40 Our analysis has also shown that gender issues in farming need to be moved to the centre-stage in agricultural policies and programmes. Till recently, little attention was paid to the role of women in the farming community. Women's work in the farm households was seen as mainly supplementing the work of the males, who also took all major decisions. This perception has changed principally because it is recognized that due to the movement of men out of agriculture, women farmers are often the principal (and sole) decision-makers in the household. The Situation Assessment Survey of Farmers 2003 shows that nearly 40 per cent of farmers in India are from among the women. This holds for all size categories. In animal husbandry more than three-fifths of the workers are women. In forestry/plantation activities too, a majority of workers are women.

10.41 The NSS Employment Rounds which classifies a person as a cultivator only if he or she is principally employed as one, show that the percentage of women among the cultivators increased between 1993-94 and

2004-05 and was also comparatively the highest among marginal land owners (Table 10.5).

10.42 One of the critical issues that has arisen is that land often continues to be in the names of the male members and women farmers are not able to derive their due entitlement as farmers. The Farmers' Survey shows that women farmers have smaller access to credit from formal institutional sources and to extension services than male farmers. The Eleventh Plan Sub-Group on Gender and Agriculture (Planning Commission 2007a) has highlighted the role of women in crop cultivation, agro-processing, livestock dairying and collection of Non

Table 10.5: Percentage of Women among All Cultivators, by Land Size Class

Land Class	1993-94	2004-05
Marginal	36.7	38.7
Small	32.1	33.4
Large	32.9	34.5
Total	34.1	36.1

Source: NSSO 50th and 61st Round Survey on Employment-Unemployment. Computed.

Timber Forest Produce (NTFP). It has noted that both in crop agriculture as well as livestock development, training programmes are designed primarily for men. Since women do not usually have ownership rights, the report has called for promoting such rights through joint ownership and pattas, as well as other forms of production such as tree pattas and cooperative model of production which give women greater control. The report also calls for giving women farmers Kisan Credit Cards on the basis of the joint pattas. All these call for policies and programmes and innovative institutional approaches that are sufficiently gender sensitive. This is also recognized by the Eleventh Plan.

Social Identity & Farming

10.43 We have seen in the Commission's Report on Conditions of Work, that certain social groups, particularly SCs and STs, predominate in the labour market. This is a result of a historical denial of land and cultivation rights to those who were at the bottom of the social pyramid, even though they happened to play a very important role as direct producers. Currently there is great asymmetry in the ownership and operation of land, as shown in Table 10.6.

10.44 In the Report on Conditions of Work and Promotion of Livelihoods in the Unorganised Sector (NCEUS 2007a), the NCEUS had shown that access to the quantum of land is an important determinant of access to economic resources such as credit as well as the outcomes in terms of income and poverty status. Further, the social identity of farmers is also seen to mediate access to economic resources and outcomes. Thus, higher social status meant better outcomes across the size class of land possessed. The relationship between poverty and land

possessed is clearly mediated by social identity. Such findings pose additional challenges beyond the economic dimensions of the farmers' status.

10.45 Further, in our analysis in NCEUS (2008b) we have shown that even after accounting for the quantity and quality of land owned by the socially deprived groups, their access to credit, information, publicly provided inputs and extension services is lower, indicating that they possibly suffer from discrimination in the delivery of these public services. A few studies have also shown that socially deprived groups also suffer from market based discrimination, which one hopes that state policy and programmes would help to compensate. Together, these factors account for the lower levels of living of farmers belonging to these groups, pointing to the need for concerted and multi-faceted action.

Key Issues & Problems of Marginal & Small Farmers

10.46 While marginal and small farmers constitute an overwhelming proportion of the farmers and contribute to half the agricultural output, they confront specific constraints. Unless these are overcome, neither will these farmers be able to improve their living conditions nor will Indian agriculture achieve the required breakthrough. Some of general issues that confront marginal-small farmers as agriculturalists are: imperfect markets for inputs/products leading to smaller value realisation; absence of access to credit markets or imperfect credit markets leading to sub-optimal investment decisions or input applications; poor human resource base; smaller access to extension services restricting the decisions regarding cultivation practices, poorer access to "public goods" such as public irrigation, command area

Table 10.6: Distribution for Social Groups of Farmer Households by Land Size Category, 2003 (percent)

Social Group	<0.4hec	0.4-1hec	1-2hec	2-4hec	>4hec	Total
SCs	56.4	26.5	9.9	4.8	2.4	100.0
STs	24.8	37.4	19.7	12.1	6.0	100.0
OBCs	35.2	32.3	16.9	9.5	6.0	100.0
Others	29.3	29.2	19.6	12.9	9.1	100.0
Total	35.9	31.1	16.8	10.0	6.2	100.0

Source: NSSO 59th Round Survey on Situation Assessment of Farmers. Computed.

development, electricity supplies; greater negative externalities from the poor quality land and water management, etc. Many of these issues are brought out by the Farmers Survey and the Cost of Cultivation Studies and are discussed below. Some of these issues (low asset base, poor human resource base) also restrict the marginal and small farmers' access to remunerative non-farm incomes.

10.47 Recent evidence also suggests that, in many cases, their situation has worsened over time. Increasing globalisation has added an international dimension to the problems faced by these farmers. The policies of huge subsidies and protectionism, widely practised by industrialised countries, often have a negative effect on small farmers in developing countries. Nearly all industrialised countries, though having a very small proportion of their population in farming, can go to great lengths to protect their agriculture. Such policies have a devastating effect, among others, on farmers in developing countries as well as the international environment (natural, economic, political and social). In the absence of proper steps, the future of these farmers seems to be very bleak. This section draws attention to some of the key issues affecting marginal and small farmers in India today.

Land Reforms & Land Rights

10.48 In its Report on Conditions of Work, this Commission has presented strong evidence to the effect that relatively successful implementation of even a modest package of land reforms dramatically improves the prospects of the poor. Poverty in rural areas is associated with landlessness. Comparatively successful, although modest, land reforms, are able to unleash the productive potential of the rural economy and reduce poverty.

Although land legislations have been amended in several states to remove the gender bias, a number of issues remain. Moreover, improving women's access to land and assets is also linked to other cultural norms and practices, which need to be simultaneously addressed.

Efficient use of land is facilitated if the farmer either owns it or has a security of tenure i.e. is assured that he would continue to cultivate it in the foreseeable future. However, informal tenancy is still widely prevalent in

India, although its incidence varies from region to region. Because of the pressure on land, landless and poor tenants continued to lease-in land, but remain unrecorded tenants, without security of tenure and without the benefit of rent regulation. Tenancy reforms have had the perverse impact of driving tenancy underground, and making it more difficult for tenants to lease land on secure and reasonable conditions. One consequence of this is that there is a wide discrepancy between the extent of tenancy reported in large-scale surveys such as the NSS and more in-depth micro surveys. In 2002-03, the NSSO reported that 6.5 per cent of the operated area was under tenancy. States such as Punjab, Orissa, West Bengal, Bihar, Uttar Pradesh and Andhra Pradesh recorded higher than average tenancy.

From the very beginning, tenancy conditions in India have differed between the usually arid and semi-arid regions where the land-man ratio is favourable and extensive cultivation is practiced, and the other regions, where there is more intensive cultivation. In the former areas, often very small landowners prefer to lease-out land to bigger cultivators. For policy purposes, therefore, one has to recognise that the tenants are differentiated because they face different conditions and levels of insecurity. At the same time, tenants as a class also face some common issues mainly due to the difference between their *de jure* and *de facto* statuses. Besides the usual risks and problems faced by other cultivators, tenant cultivators have the additional burden of high rents. Due to the lack of documentary proof, as it is merely a verbal agreement, the tenants are deprived of any tenancy rights. This increases the hardships of tenant cultivators as lack of documentary proof keeps them outside the ambit of formal delivery system denying them access to critical inputs such as credit. Thus, rising costs of inputs and enhanced rents along with the high costs of informal leasing increases the vulnerability of the group. Studies of agrarian distress in the recent past indicate that marginal and small tenants are an especially vulnerable class, as rents in the areas of commercial agriculture go up to reflect high profitability in good years, but constitute a heavy burden in the years of distress.

Apart from tenancy, the other constraint faced by these farmers is that even where they own land the record of

Table 10.7: Literacy & Mean Years of Education of Unorganised Agricultural Self-employed Workers, 2004-2005

Land Size/Class	Literacy Rate			Mean Years of Education		
	Male	Female	Total	Male	Female	Total
Landless	45.6	25.5	34.0	2.2	1.5	1.8
0.01- 0.40 ha	59.2	31.1	43.7	3.7	1.7	2.6
0.41 - 1.00 ha	64.5	31.7	51.4	4.1	1.7	3.2
Marginal	62.5	31.2	48.1	3.9	1.7	2.9
Small	68.7	34.8	55.9	4.7	1.9	3.6
2.00 - 4.00 ha	70.2	37.1	57.6	4.9	2.1	3.8
> 4.00 ha	77.4	42.0	63.3	5.8	2.5	4.5
Medium & Large	72.9	39.0	59.7	5.3	2.2	4.1
All	67.4	34.1	53.4	4.5	1.9	3.4

Source: NSSO 61st Round Survey on Employment-Unemployment. Computed.

rights is not updated and mutations in land records are not duly recorded.

Low Level of Formal Education & Skills

10.49 Low literacy, lack of organisation and poor connectivity lead to low levels of awareness among farmers, regarding the technology usage, institutional credit schemes and sources and the government's support initiatives. There is enough evidence to suggest that the size of farmers' holdings and level of formal education are positively correlated. Since small farmers are far behind in terms of formal education, they are inherently at a greater disadvantage (Table 10.7).

10.50 *Low Skills*: Low levels of formal education and awareness are reinforced by low skill levels among farmer households. According to the 61st Round NSS Survey, only 1.6 per cent youth (15-29 years) in farmer households had formal skills. This percentage was lower for agriculture labour households (1 per cent) but higher for other labour households (2.2 per cent) and much higher for 'other' households (6.5 per cent). This limits the chances of farmer households to pursue remunerative non-agricultural vocations.

10.51 *Low Awareness*: The low level of formal education noted above and the limited public dissemination of knowledge, however, severely limits the farmers' awareness. The level of awareness among farmers

of bio-fertilizers, Minimum Support Price and the World Trade Organisation is directly related to land size as well as to social background of the farmers. Also, such awareness is associated with educational levels across the states. Kerala, Tamil Nadu and Punjab reported high awareness levels about these issues.

Farmers' Income, Consumption & Poverty

10.52 The average monthly income of farmer households comprised income from wages, net receipts from cultivation, net receipts from farming of animals and income from non-farm businesses. The average monthly consumption of farmer households comprises both total food and non-food expenditure. Estimates based on the Farmers' Situation Assessment Survey of 2002-03 shows that the average monthly income of all farmers at all India level is estimated at Rs. 2115, ranging from Rs.1659 for marginal farmers to Rs. 9667 for large farmers. Consumption expenditure of marginal and small farmers exceeds their estimated income by a substantial margin and presumably the deficits have to be plugged by borrowing or other means. The correlations between expenditure deficit and land size, and poverty levels among marginal and small farmers is high. Moreover, poverty and social identity are also correlated. Table 10.8 gives the incidence of poverty among the socio-religious groups and land size. The small and marginal farmers are economically worse off. But here again, there is

Table 10.8: Poverty Ratios among Farmers by Socio-Religious Groups and Land (Possessed) Size Classes, Rural 2004-05

Land Size (ha)	Hindu STs	Hindu SCs	Hindu	Hindu	Muslims	Other	All
			OBCs	Upper Castes		Religions	
<0.01	68.4	29.1	18.1	1.6	4.7	26.6	22.0
0.01 - 0.4	41.5	24.8	18.8	10.3	23.1	10.2	20.2
0.4-1.0	34.4	21.5	17.5	6.4	19.5	17.6	18.1
1.0-2.0	33.2	18.0	12.3	6.9	12.1	16.8	14.8
>2.0	29.7	14.5	6.8	6.1	7.1	6.4	9.8
All	33.3	20.8	13.0	6.9	16.4	12.6	15.2

Note: 1. Poverty ratios are computed for workers in the unorganised sector.

2. Cases with unspecified land possessed have not been included in any class but in All.

Source: NSSO 61st Round Survey on Employment-Unemployment. Computed.

differential incidence of poverty mediated by one's social identity. Size of land does help reduce poverty but there are other factors that have to do with one's social position to translate the asset position into one of wellbeing. Those belonging to SCs and STs are especially vulnerable even among these groups of farmers.

Credit & Indebtedness

10.53 *Lack of access to credit:* Small and marginal farmer households need credit to meet both the consumption needs to maintain subsistence levels as well as for production purposes to meet the increasing costs of cultivation. Not only do marginal and small farms rely principally on informal sources of credit, a majority of them have no or very little access to credit constraining production and investment. This situation calls for urgent measures of the kind indicated by us in NCEUS (2007a, 2007b).

10.54 *Indebtedness:* Increased indebtedness is noted as a major reason for the spurt in farmer suicides during recent times across a number of states. In most, if not all, such cases, the economic status of the suicide victim was very poor, being small and marginal farmers. After the Green Revolution agricultural activities have become cash based individual enterprises requiring high investment in modern inputs and wage labour. This is evident from the list of states with high incidence of farmer suicides, which are not necessarily backward or predominantly agrarian or with low income. Increased liberalisation

and globalisation have in fact led to a shift in cropping pattern from staple crops to cash crops like oilseeds and cotton, requiring high investment in modern inputs and wage labour, and increasing credit needs but when the prices declined farmers had no means to supplement their incomes.

As discussed above, the prevalence rate of formal sources indebtedness among marginal and small farmers is much lower than among large farmers, while in the case of informal sources the reverse is true (Table 10.9). The medium and large farmers have better access to institutional sources as they are better endowed in terms of assets to offer as collaterals for loans than marginal and small farmers. Given their economic conditions, the poorer farmers, with no collateral to offer in lieu of loans and with insufficient capacity in following the required procedural formalities to access formal sources, prefer to approach the easily reachable informal sources such as the private moneylenders and traders. This increases their

Table 10.9: Prevalence Rate of Indebtedness by Farm Size, All India (percent) 2003

Land Size (ha)	Formal	Informal	Both	Total
<= 0.40	12.7	30.3	3.5	46.5
0.41 - 1.00	18.8	21.7	4.6	45.0
1.01 - 2.00	25.9	17.9	7.0	50.8
> 2.00	34.7	14.4	8.6	57.8
Total	20.4	23.0	5.3	48.6

Source: Computed using NSS unit level data 59th Round on Situation Assessment Survey of Farmers 2003.

vulnerability and also checks their entrepreneurial initiatives to invest in agriculture to increase productivity and income levels.

Issues Relating to Land & Water Management

10.55 Land and water are the two critical resources for agriculture. The percentage of net area irrigated does not show any particular disadvantage accruing to small and marginal farmers. They are concentrated in marginal and degraded lands, lands which are at the tail-end of canal systems, or in the upper reaches of watersheds. They also suffer more from flooding and seepage than the land belonging to medium-large farmers. While large farmers capitalize on cheaper sources (e.g. higher percentage of irrigation from canals which is a cheaper irrigation option while smaller farmers have to rent water). About 40 per cent of the irrigated area in the case of farmers above 10 hectares was from canals, it was less than 25 per cent in the case of marginal and small farmers.

Use of Farm Equipment and Modern Inputs, Access to Extension services

10.56 Input use to enhance productivity has greatly increased since the Green Revolution, which is also one of the reasons for increased cost of cultivation. Timely availability of HYV seeds and usage of fertilizers and pesticides is also important to ensure a good crop. Farmers in general, and marginal and small farmers in particular, often face problems regarding easy and timely availability and quality of these inputs as also the costs and knowledge of use of these inputs in the right quantities. Among the various inputs (pesticides, fertilizers, HYV seeds, organic manure and veterinary services), the Situation Assessment of Farmers Survey shows that only organic manure is most readily available within the village. In most cases the inputs are available in the nearest large village which is more than 2-5 kms away. Farmer households have to travel more than 10 kms for seeds and pesticides. The access to public extension services has become very weak which often resulted in inappropriate choice of crops and inputs.

Integration into Markets and Risk

- **Low Remunerative Price:** Marginal and small farmers are influenced by market behaviour but the prices they receive are usually very low because

of their economic vulnerability and weak bargaining capacity. The entire crop of the small holders comes to the market at one time. The small cultivator, who is often heavily indebted, has poor bargaining strength to get a favourable deal from the more resourceful traders. During high price periods also, more often than not, it is the middleman who benefits. With the development of more integrated markets, led by large private players, smaller cultivators face asymmetric conditions and large transaction costs.

- **Decline of Public Marketing:** The state support price system is of prime importance in protecting the interest of the farmer. However, the government's attempts to mitigate farmers' risks through measures such as the Minimum Support Price (MSP) have also not been very successful as the coverage of the scheme in terms of crops and area is small. The small farmer is thus not assured of a minimum return on his labour and investment. As Jodhka (2006) noted, public marketing services have also declined in spread and scope, again increasing the role of private traders. On the input side, the weakened public extension support system has increased the dependence of the farmer on private dealers, often resulting in inappropriate choice of crops and inputs.

- **Weak Bargaining Power:** In several states, the Agricultural Produce Marketing Corporation Acts have either been amended or repealed, providing freer entry to private organised trade. Contract farming is also now being considered as a way of integrating farmers to markets. With such integration, crop diversification is likely to receive a fillip. But this may not automatically translate into higher returns to small farmers due to high transaction costs for the firms and the weak bargaining strength of the farmers, who will remain so unless the small and marginal farmers can be federated into groups.

- **Risk & Insurance:** Being a nature-based activity, cultivation is highly risky. Further, in the liberalised scenario price risks have also increased (Suri 2006; Jodhka 2006). Heightened dependence on market has exposed the farmers to fluctuating price regimes, more so in the areas of commercial

farming. This is of particular concern for the small and marginal farmers who do not have the means to cope with such shocks. In case of crop failures, insurance is important. However, crop insurance has made little headway except where it is built into other transactions such as co-operative credit. Insurance is still an uncommon practice with only 4 per cent farmers having ever insured their crops. Even among farmers with insured crops, follow up and payment by insurance companies in case of crop failure is still a weak area (NSSO 2005).

Low Membership of Groups

10.57 Collective organisation for farmers may be said to be a *sine qua nom* for demanding and securing public services and assistance especially in the context of economic reforms that are by and large, urban oriented. Farmers' groups and co-operatives are of help to overcome diseconomies of small size and access to credit, inputs and markets. Cooperative forms of organisation has a long history in rural India especially among farmers. Yet membership of cooperatives, SHGs and other groups is very low among farmers, except in some regions, and is particularly low among marginal and small farmers.

Significance of Non-farm Income-Large Share of Non-Farm Income

10.58 The contribution of farmers' off-farm income to total income is usually inversely related to the farm size. In case of small farmers, the insufficient levels of income from farm alone and higher man-land ratio forces them to look for avenues of income other than agriculture. The smallest category of farm households relies mainly on wage incomes to supplement incomes from cultivation. As per the Farmer's Survey, 54 per cent income is from wage income and only 26 per cent is from cultivation among the marginal farmer households. The share of income from animal farming (5.5 per cent) is also the highest for this category of farmers. Among small farmers, 56 per cent of the income is from cultivation while 30 per cent is from wages.

Approach of the Commission & Recommendations

10.59 The present constraints on Indian agriculture stem from systemic issues, which include the macro-

policy environment. These constraints have seriously affected the degree of public support received by agriculture in investment, credit, extension services, R&D, and so on. This neglect has been most prominent in the case of marginal and small farmers. In the Commission's view, marginal and small farms are the backbone of Indian agriculture. These farmers face various disadvantages while dealing with the markets. At the same time, the Commission's analysis clearly brings out that government interventions also tend to be less effective with respect to these categories of farmers. The Commission feels that there is need for a focused strategy with respect to marginal and small farmers. Organisationally, such a strategy must focus on group approaches so that the required transaction costs can be reduced and farmers can benefit from economies of scale. The Commission has therefore advocated the setting up of a special programme for marginal and small farmers in order to incentivise the formation of farmers' groups and apex organisations, and facilitate finding solutions to problems of irrigation, inputs, markets, procurement and risk. Also the risk factor has to be mitigated through appropriate farming strategies as well as adequate insurance. There is the need for insurance instruments that cover for production and also for market risks for all crops to reduce the financial risks and increase viability.

Special Programme for Marginal & Small Farmers

10.60 The underlying idea of a special programme was to build capacity of small-marginal farmers through a group-based approach in the proposed Special Programme. The group-based approaches have shown to make a significant impact on the agricultural outcomes for marginal-small farmers, while also enabling them to access credit and other resources, and to undertake non-farm activities. The main objectives of this programmes was (i) to improve the income prospects of marginal-small farmers from agriculture, (ii) to improve the skill base of marginal-small farmers in both agricultural and non-agricultural activities (iii) to provide such farmers with income earning opportunities in the non-farm sector (iv) to ensure that the needs of the marginal and small farmers are adequately reflected in other agricultural and

development programmes and their access to these programmes in order to strengthen their livelihood security.

Principal Activities Proposed under the Special Programme

- (a) *Promotion of Marginal-Small Farmers' Groups:* One of the first and important functions of the Programme will be the promotion of marginal and small farmers' self-help groups. The Special Programme proposes setting up of Marginal and Small Farmers' Development Society (MSFDS) for promotion, capacity building and coordination of development of marginal and small farmers' groups. This society will be formed at the district level under the Charitable Societies Act, headed by the collector. The Society should identify and train a team of Community Resource Persons for formation of the groups. Wherever NGOs engaged in the promotion of rural livelihoods already exist, they could play an important role in the formation of the groups.
- (b) *Enabling Greater Access to Institutional Credit:* Linking the marginal and small farmers' groups to banks is an essential step towards adequate flow of institutional credit to these farmers. This linking could be done on the pattern of the existing SHG-bank linkage programme. The objective is that adequate institutional credit should be able to reach all marginal and small farmers, whether owners or tenants.
- (c) *Training and Capacity Building:* Since farming is becoming increasingly knowledge-based, training these farmers in appropriate technical and farming practices specific to different regions becomes an urgent need. The Special Programme aims at motivating and enabling marginal and small farmers to acquire skills by establishing Community Resource Centres, by promoting activists at the village, cluster, and block levels, and by promoting training of trainers and training of the farmers. Such groups will be the basic units for this intervention and grass-roots agencies will enable them to link up with the existing facilities and programmes.
- (d) *Support for Creation & Strengthening of Non-Farm Activities:* Given the fact that income from small farming is hardly sufficient to meet the basic needs of the farm households, it is important to strengthen and enhance their sources of non-farm income. Some of these are organically linked to farming as in the case of dairying, livestock rearing, inland fishing, food processing, weaving as in the North-east, and so on. In addition there will also be non-farm activities that could be accessed by members of the small farmer households. A number of schemes and programmes exist for rural non-farm activities such as PMEGP and SGSY.
- (e) *Gender-focused Activities:* Recognising that farming is increasingly feminised, the Special Programme's initiative of marginal and small farmer group formation would aim at these groups having an adequate number of women or exclusively women farmers as well. The programme would play a leading role in facilitating a gender sensitive marginal and small farmer development strategy. These include mapping the existing role and constraints on women farmers, support and organise training and skill development programmes for women farmers. The programme should also promote joint ownership or leasing and operation, or usufructuary rights over the existing productive assets (land, trees, ponds, CPRs) as well as new ones among women farmers through SHGs, co-operatives etc.
- (f) *Planning for Development of Marginal and Small Farmers:* While the Special Programme would initiate the activities outlined above, the MSFDS would also

develop a strategy for the medium term development of marginal and small farmers. The strategy will essentially have a bottom-up approach. The primary information on the nature of problems faced by these farmers, the nature of the solutions that they conceive, and the kind of interventions that they expect should be drawn up from the marginal and small farmers' groups right from the village and panchayat levels. These grass-root perceptions should be combined with an assessment of the numbers of marginal and small farmers, their spread in terms of agro-climatic specificities, the availability of infrastructure facilities including those relating to input supply and output marketing, institutions of credit, training etc. Based on this exercise, the proposed strategy would suggest locally relevant development strategies which are also sensitive to the internal socio-economic differentiation and growing feminisation of this segment of workforce, and set quantitative targets. Special stress will be laid on dovetailing the requirements of the small farmers with all the existing programmes.

- (g) *Financial Resources:* The financial resources meant exclusively for this programme will be in addition to what is provided in the existing schemes. The total cost of this Programme would be about Rs 2000 crores per year, or an average of about Rs 3- 5 crores per district. This amount can be increased as the capacity of the MSDS to undertake activities mentioned below, or other activities entrusted to it increases. The total amount would be allocated to the states/districts in proportion to the marginal and small farmers in each area.

Improved Credit Support

10.61 The Commission is concerned with the position of institutional credit with respect to agriculture, and more so, with respect to marginal and small farmers. The share of agricultural credit in the Net Bank Credit (NBC) declined from 17 per cent in 1994 to 9 per cent in 2004.

The Government is currently seized with the issue of extending affordable credit to the agricultural sector. Banks have been asked to increase credit by 25 per cent each year, and the rate of interest has been pegged at 7 per cent. The announcement of Government Policy in 2004 requiring the doubling of agricultural credit in three years, has undoubtedly led to an increase in the volume of credit, but as a percentage of NBC it still stands at a low 11.9 per cent in 2006. As far as marginal and small farmers are concerned, the RBI does not maintain a separate record of their credit off-take but surveys such as the Farmers Survey bring out a dismal picture. The Commission is of the view, that in addition to the steps already taken by the Government and the banking system, a number of other measures need to be initiated on an urgent basis, focusing particularly on the issue of credit availability to marginal and small farmers.

10.62 The Commission has recommended the following measures as an immediate Action Plan: (1) Separate monitoring of the credit flow to this segment of farmers i.e. marginal and small farmers. (2) Change in the priority sector guidelines with a target of 10 per cent needs to be fixed for marginal and small farmers. (3) Measures to increase the outreach of the banking sector in rural areas and in areas of financial exclusion. (4) Measures to extend credit to the 20 - 40 per cent of the marginal and small farmers who are excluded from the formal financial sector due to lack of patta and title deeds. The majority of these farmers are informal tenants. The RBI has issued guidelines, following the Swarnakar Committee recommendations that such farmers be extended credit on the basis of certificates issued by the panchayats. These guidelines should be complied with by the banks and the procedures simplified to the extent necessary. However, in order to reduce the perceived risk of default of this excluded segment, as well as the larger segment of marginal and small farmers, due to which the banks do not engage these farmers actively, the Commission is of the view that the Government may set up a Credit Guarantee Fund in NABARD, on the lines of the CGF set up by the Ministry of Micro, Small and Medium Enterprises which provides guarantee cover on loans to small units. Steps are also needed to strengthen and revive the rural banking sector and co-operatives. The efforts of SHGs also need to be encouraged.

Emphasise Land & Water Management

10.63 In the Commission's view land and water management is the key to equitable and sustained growth in rural livelihoods. The NCF and the Steering Group on Agriculture have also stressed the need to focus on rain-fed and dry-land farming. These and various other committees have emphasised the role of efficient land and water management. The problems of land and water management as well as solutions to these problems vary from region to region -well irrigated tracts, high rain-fall/rain-fed areas, flood prone areas, low rainfall/ rain-fed areas, etc. These problems affect marginal and small farmers more than the bigger farmers. The Commission is of the view that the programmes of land and water management must be significantly up-scaled and an accelerated programme of watershed management should be implemented during the 11th Plan. We note that a number of studies have pointed out that the benefit-cost ratio of such a programme is high.

10.64 The Commission also views convergence of watershed development activities with other programmes as an issue of high priority. A number of activities undertaken in the Watershed Development Programme pertains to wage employment. These activities can be converged with NREGP and SGRY. Shelves of projects related to water conservation, plantation and afforestation, renovation of the existing water structures, soil conservation and structures dealing with drought should be appropriately linked to the Watershed Development Work Plans at Block level. The Watershed Development Teams should work for convergence of WDPs with NREG activities. Panchayats should be trained to ensure convergence in implementation. The Eleventh Plan has recommended preparation of district plans with activity planning for different levels of the PRIs. Integration of land and water improvement programmes should be ensured in activity mapping and in the district plans.

Farmers' Debt Relief Commission

10.65 The Commission has analysed the acute distress faced by the farmers in some parts of the country. It has also examined the reasons and impacts of the crisis on farmers. While these reasons are linked to a number of

diverse reasons, their impacts have been felt mostly by the marginal and small farmers. The access of these farmers to institutional credit being limited, they are compelled to take recourse to non-institutional sources of credit. Failure to repay these loans on time due to one or several causes of the crisis leads to the tremendous vulnerability of this group of farmers.

10.66 A major problem in these areas is that since the marginal and small farmers do not have access to institutional credit, they have to approach informal lenders to meet their credit requirement. The Commission is of the view that the Central Government could provide guidelines and assistance to states experiencing agrarian distress, both natural and market related, for setting up Farmers Debt Relief Commissions. It recommended that, as part of the relief package, the Government could extend assistance to the State Commissions on a 75:25 basis. The Debt Relief Commissions, as part of their award, should examine and institute measures which ensure the entitlement of the marginal/small farmers to institutional credit. These measures would complement the measures already announced by the Government.

Measures to Increase Access to Non-farm Employment

10.67 It is now increasingly clear that the capacity of the agricultural sector to absorb the increasing labour force is limited and there is a need to diversify to other non-farm and off-farm employment in rural areas. There is, thus, a clear need to generate more employment opportunities through rural diversification and development of off-farm and non-farm activities. An expanding non-farm sector impacts agricultural wages positively by tightening the rural wage worker market. Poor and socially backward workers also have access to it as it is not a land-based activity. Thus, even when the non-farm activity is low productive and of residual nature, it is still beneficial to the poor, for it acts as a safety-net and prevents further accentuation of poverty. From a gender point of view, home based activities may be preferred by female workers, but steps need to be taken to ensure decent conditions of work, remunerative incomes and up-gradation of skills, and scale expansion.

10.68 Overall the expansion of the non-farm activities helps reduce poverty levels by providing employment outside agriculture at a higher remuneration. A shift of the labour force out of agriculture into the non-agricultural sector can only happen if our growth strategy generates high growth in labour intensive manufacturing and in productive services sectors. Given the limited scope for employment generation in agriculture and the increasing vulnerability of the small and marginal farmers as also of the agricultural labourers, it is imperative that the government takes initiatives to promote the expansion of both non-farm and off-farm employment opportunities in the rural areas. It must also take steps to improve the access of these vulnerable groups to these jobs through skill development and improving their capital and human asset base. All these must be done while simultaneously addressing gender and social issues.

Self-employment Programmes

As we have shown in our earlier reports, more than three-fifths of the unorganised workers in India are self-employed and asset ownership and operation lowers poverty in most cases. Thus, strategies, which promote self-employment and income growth of the self-employed are important components of a pro-poor development strategy in India. Four major schemes launched by the Central Government to facilitate self-employed enterprise development through easing credit flow and other assistance are the Prime Minister's Rojgar Yojana (PMRY) started in 1993, Rural Employment Guarantee Generation Programme (REGP) of the KVIC started in 1995, (together merged into the PMRY in 2008), the Swarnajayanti Gram Swarozgar Yojana (SGSY) of the Ministry of Rural Development started in 1999 and the Swarnajayanti Shahari Swarozgar Yojana (SSSY) of the Ministry of Urban Employment and Poverty Alleviation since 1997, the latter two being integrated to the previously existing self-employment schemes. These programmes are mainly in the nature of poverty alleviation schemes, with the highest average investment of Rs.50000-65000 per enterprise being available in the PMRY. Some of them follow a group enterprise or the Self-Help Group formation approach to enterprise development. These programmes have made a significant contribution in not only enhancing income levels of the

poor but have been helpful in stemming the rural and urban migration of the poor also. But they do not target those vulnerable sections who are engaged in farming and who may officially not be in the BPL category. These programmes require a focus on these sections with the additional elements of skill building as discussed below.

Wage Employment Programmes and NREGA

Wage employment programmes have been an important component of the anti-poverty strategy. These provide employment opportunities not only during lean agricultural seasons but also in times of floods, droughts and other natural calamities. These programmes also contribute directly to the creation of durable assets for the community. The rural infrastructure so created is expected to enhance further economic activities. Wage employment programmes also put an upward pressure on the market wage rates by attracting people to public works programmes, thereby reducing labour supply and pushing up demand for labour.

The National Rural Employment Guarantee Act, 2005 (NREGA) is a major step in the direction of providing assurance and security of employment to rural workers by providing at least one hundred days of guaranteed wage employment every year to every household whose adult members volunteer to do unskilled manual work. The Act marks a historic step towards recognising and ensuring work as a right of the people. The Commission has analysed this programme in chapter 9 of this report and has made several recommendations, building on those made by it earlier.

Skill Training

The Commission's Report on Conditions of Work (NCEUS 2007a) and its subsequent reports on Marginal and Small Farmers and on Skill Development have highlighted the extent of education and skill deficit among rural workers in general and agricultural labourers and marginal and small farmers, in particular. The lack of education and skills also has a strong gender dimension. The low level of education and skills is a strong determinant of work status in the countryside and it is principally those at the lowest end of the education-skill spectrum who remain confined to agriculture. This is

unfortunate as agricultural growth itself requires new skills and further acquisition of skills is likely to prepare some part of the agricultural workforce to move out of agriculture.

In order to correct this deficit, the Commission has proposed a decentralised initiative to expand skill training in rural areas which would be amply supported by the national level structures and institutions. The Marginal and Small Farmers agency proposed by the Commission will also take upon the responsibility of coordinating skill development programmes for the target group viz. marginal and small farmers.

Land Reform

10.69 There is strong evidence that relatively successful implementation of even a modest package of land reforms dramatically improves the prospects of the poor. Poverty in rural areas is associated with landlessness and comparatively successful, although modest, land reforms are able to unleash the productive potential of the rural economy and reduce poverty. We are therefore of the view that there is a strong continuing case for redistributive land reforms viz. one which improves the access of the rural poor to land through expropriation and distribution of ceiling surplus lands and cultivable wastelands, tenurial reform and better operation of the land-lease market and the land sales market. However, these reforms will succeed in their intent only if supportive policies and institutions are in place, such as those mentioned in the preceding paras, which allows the rural poor to access new technologies and economies of scale in marketing, wherever necessary. Large gains for poor farmers could still ensue if the tenancy market is liberalised, subject to the existing land ceiling and effective regulation to promote long-term tenancies and reasonable rents. The land sales market is very sluggish in poor regions and could be used to promote transfers to the land poor through long-term loans. The updating and computerisation of land records is bound to lower transaction costs in effecting land mutations, but the specific impact on the poor needs to be investigated in greater detail.

10.70 Gender concerns in land reform have only been highlighted in the last few years. In land distribution programmes, deeds (pattas) are being given in the name of women only or in the joint names of wife and the husband. Priority is also being given to distributing land to widows. Land legislations have been amended in several states to remove the gender bias, but a number of issues remain. Moreover, improving women's access to land and assets is also linked to other cultural norms and practices, which need to be simultaneously addressed. Self-help groups have provided other mechanisms to improve women's access to land (through individual or joint leasing and cultivation of land), which needs to be carefully nurtured.

10.71 The Commission supports the implementation of the following land reform measures on a priority basis:

- *Ownership and Land Control Rights for Women:* Since women do not usually have ownership rights, the report has calls for promoting such rights through joint ownership and pattas, as well as other forms of production such as tree pattas and cooperative model of production which give women greater control.
- *Land Reforms:* Redistributive land reforms viz. one which improves the access of the rural poor to land through expropriation and distribution of ceiling surplus lands and cultivable wastelands (with priority being given to homestead land), tenurial reform and better operation of the land-lease market and the land sales market. The latter will help to align the ownership and control of land to the actual cultivators, improving cropping intensity and the efficiency of cultivation.
- *Tenancy Reforms:* As most tenancies are unrecorded, the share of recorded tenancy is almost negligible, 0.74 per cent in 2003, which has declined from 1.31 per cent in 1991-92. This goes to show that the tenant cultivators are highly vulnerable. It is clear that a new round of tenancy reform should be high on the policy agenda. The Tenth Plan and the Eleventh Plan have already suggested that tenancy should be legalised subject to the ceiling

limit already specified in law, security of tenure should be encouraged and the new law should protect the rights of both landowners and tenants. At the same time, banks should not insist on copies of land records for credit purposes.

- *Tenancy Security:* Tenancy security should be seen as a basic requirement for both livelihood security of the poor farmers as well as agricultural development especially in a situation where the employment transformation to non-agricultural employment has been very slow. In any case, the addition to the rural labour force will be quite significant as to warrant the intensification of employment creation in the non-farm sector. The issue of insecurity of tenants vary across the states but its incidence is greater in Eastern and Central India (Bihar, Eastern UP, Madhya Pradesh, Chattisgarh, Jharkhand and Orissa) such that these states need to take it up on a priority basis.

Conclusion

10.72 The agricultural sector is the largest component of India's informal economy and continues to absorb a large part of the growing workforce, especially the women. But since worker productivity in agriculture has been growing at a slower rate than in the other sectors, the disparity between the incomes of agricultural and non-agricultural workers is steadily increasing. This calls

for a three-pronged strategy, focusing on increasing growth and productivity in agriculture; simultaneously enabling agricultural workers to engage in remunerative non-farm activities; and providing a minimum level of social protection and income security to agricultural workers including wage workers. This chapter has focused on the first two prongs of this strategy.

10.73 The agrarian sector has been subject to enormous vicissitudes in the last decade and a half which also manifested itself in the form of an acute agrarian crisis and farmers' suicides in some parts of the country. The expected gains of the reform did not translate into higher growth of the sector and higher farmer incomes. Public investment in agriculture declined and institutional support structures weakened. Recent measures have stepped up support to agriculture in ways that we have summarized in this chapter and this has yielded some positive results. However, many of these measures need to be strengthened further in the directions spelt out in this chapter. Moreover, support to the sector does not equally translate itself into support for the bulk of farmers who are marginal or small. These farmers need a focused approach which can improve their incomes from farm and non-farm activities. The Special Programme and the other measures proposed by this Commission can, in our view, form the basis of improving the prospects for these households.

The World of Micro Enterprises : Characteristics and Constraints

Introduction

11.1 From an informal economy perspective, we have seen earlier that more than half the workers are classified as ‘self employed’ meaning thereby that they earn a livelihood by employing themselves in a variety of activities. These include (a) those who are classified as ‘own account workers’ where there are no hired workers and run by self with or without the help of unpaid family members and, (b) those who engage in economic activities with hired workers but less than ten total workers. In agriculture, such self-employed persons are by and large nothing but marginal and small farmers about which we dealt with in the earlier chapter.

11.2 The second large segment in this universe of self employed consists of those who are engaged in non-farm activities. The only source of information to provide a macro picture of this universe is the Economic Census conducted by the Central Statistical Organisation, the latest one being for the year 2005. However, this census is nothing more than a listing of all non-crop units of production and services in the country with information collection confined to number of workers. For our purposes of detailed analysis of the informal sector units, we rely on the surveys conducted by the NSSO.

11.3 Be that as it may, available information from the last two Economic Censuses give us an overall picture of the informal and formal sector enterprises and its employment (see Table 11.1). The striking picture that emerges from this information is that India, a growing and large economy, is indeed dominated by a large number of very small units of production and services. Earlier we had seen that 84 percent of producers in agriculture are small and marginal farmers contributing a little over half the agricultural output. In non-farm activities 89 percent of enterprises and establishments are unorganised sector enterprises employing less than ten workers. They account for nearly two-third of the employment in this sector. As this Commission reported in its *Report on Definitional and Statistical Issues* (NCEUS 2008a) they contributed to 30 percent of the non-farm output. This single piece of empirical information is sufficient to convey the dominance and contribution of the informal sector, both in terms of output and employment – and more so the latter – in the Indian economy whether viewed from an all-economy perspective or sector-wise. It would indeed be instructive for the policy makers to reflect as to how much of public expenditure, public systems and public policy are devoted to this vast segment of the Indian economy where majority of Indians depend for their livelihood.

Table 11.1: Distribution of Enterprises and Employment by Economic Activity and Type in 1998 and 2005 (Total figures in million and Sector-wise break-up in per cent)

Category	Enterprises			Employment		
	All	Informal	Formal	All	Informal	Formal
Total Economy						
Total	41.83 (30.35)	37.25 (27.18)	4.58 (3.17)	100.90 (83.31)	65.85 (50.25)	35.05 (33.06)
Total Economy	100 (100)	89.05 (89.55)	10.95 (10.45)	100 (100)	65.26 (60.31)	34.74 (39.69)
Agriculture	14.54 (11.45)	14.03 (11.27)	0.50 (0.18)	10.82 (8.10)	9.70 (7.57)	1.11 (0.53)
Industry	21.02 (19.43)	19.69 (18.17)	1.33 (1.26)	27.00 (29.09)	16.99 (14.97)	10.01 (14.12)
Services	64.44 (69.12)	55.32 (60.11)	9.12 (9.01)	62.18 (62.81)	38.57 (37.77)	23.61 (25.03)
Rural Economy						
Rural Total	25.54 (17.71)	22.25 (15.44)	3.29 (2.27)	52.06(39.90)	35.83 (26.18)	16.24 (13.73)
Rural Economy	100 (100)	87.11 (87.19)	12.89 (12.81)	100 (100)	68.82 (65.60)	31.18 (34.40)
Agriculture	22.36 (18.08)	21.59 (17.80)	0.77 (0.27)	19.54 (15.37)	17.59 (14.46)	1.95 (0.91)
Industry	21.28 (21.11)	19.90 (19.99)	1.38 (1.12)	27.80 (31.36)	18.36 (18.04)	9.45 (13.32)
Services	56.37 (60.81)	45.62 (49.39)	10.75 (11.42)	52.66 (53.27)	32.87 (33.10)	19.78 (20.16)
Urban Economy						
Urban Total	16.29 (12.64)	15.00 (11.74)	1.29 (.90)	48.84(43.41)	30.02 (24.07)	18.81(19.34)
Urban Economy	100 (100)	92.08 (92.87)	7.92 (7.13)	100 (100)	61.48 (55.45)	38.52 (44.55)
Agriculture	2.28 (2.17)	2.19 (2.12)	0.09 (0.05)	1.51 (1.42)	1.30 (1.24)	0.22 (0.18)
Industry	20.62 (17.07)	19.36 (15.62)	1.26 (1.46)	26.15 (27.01)	15.53 (12.15)	10.61 (14.86)
Services	77.10 (80.76)	70.53 (75.13)	6.57 (5.63)	72.34 (71.57)	44.65 (42.07)	27.70 (29.50)

Note : Computed as per NCEUS definition of Informal Sector as Proprietary and Partnership enterprises with <10 workers. All others are classified as Formal Sector. 1998 Economic Census Figures are given in brackets.

Source : Economic Census 1998 and 2005.

11.4 In India, policy making right from the First Five Year Plan did indeed take note of the existence of this vast sector both in agriculture and non-agriculture. However, the focus in the non-farm sector has been with reference to 'village', 'tiny' and 'small scale' industries that comprised both unorganised sector enterprises and somewhat larger enterprises. Secondly and understandably, manufacturing received much more attention than service sector units. Thirdly and importantly, the definition of 'tiny' or 'small scale' has always been with reference to capital investment without reference to employment.

11.5 The realization that the lower segment in the small scale sector needs special focus as the somewhat larger (but small scale) units might have been the beneficiary of various government policies and programmes has led to the carving of a separate category called 'micro enterprises and establishments'

with an investment ceiling of Rs.25 lakh and below. This has now been explicitly incorporated in the Micro, Small and Medium Enterprise Development Act of 2006. Ideally a definition in terms of capital-labour ratio would have captured both the investment and employment dimensions. In practice, however, fortunately, the Commission has noted a remarkable overlap between the investment definition given in the MSMED Act of 2006 and Commission's own definition of informal sector enterprises as proprietary and private enterprises employing less than ten workers. Estimates from the Third Census of Small Scale Industries conducted by the then Ministry of Small Scale Industries (now known as Ministry of MSME) show that 98 percent of units with less than Rs.25 lakh investment in plant and equipment also employ less than ten workers. This overlap is very large indeed

as far as manufacturing units are concerned (which is why in this chapter we speak of micro enterprises) but is less extensive for services sector, since the current definition of micro enterprises covers only a small segment of this sector.

11.6 The data base that provides information that is most amenable to analysis is that of the NSSO Surveys of Unorganised Manufacturing and Services. At the aggregate level, this database provides information on all enterprises which are not registered under the Factories Act of 1948, out of which the Commission has extracted information according to the definition of informal sector given above, which in manufacturing, as we have stated is also more or less coterminous with micro enterprises. In this chapter, we identify characteristics of the sector as a whole and then attempt to present a disaggregated picture of structural features of the unorganised enterprise sector at an industry level and by location as a prelude to our discussion on the problems and prospects for development. It also compares the All-India picture with that of the states. We also discuss the linkages between micro enterprises and large enterprises in the form of emerging subcontracting relationships.

11.7 The following analysis is based on unit level data from the NSS 51st, 56th and 62nd Rounds on Unorganised Manufacturing for the years 1994-95, 2000-01 and 2005-06, respectively. It also presents information for 2001-02 for the services sector from the NSS 57th Round on the Unorganised Service Sector in India. But we must point out here that this survey of the service sector left out an important segment (i.e., 'trade and finance') which roughly account for 13.4¹ percent of the self employed in this sector and 10 percent in the informal sector as a whole. Again, at the time of preparing this report, this is the only year for which such data are made available. Given the increasing importance of the service sector, as the

largest in terms of its contribution to national income and the growth performance, the absence of regular collection of data on its performance is indeed glaring. This is not just for the informal sector but more so for the formal sector. As the Commission stated in its *Report on Definitional and Statistical Issues Relating to the Informal Economy* (NCEUS 2008a), the absence of an annual survey of service sector establishments in the formal sector is a major limitation in analyzing and understanding the performance of the Indian economy as well as comparing it with that of the informal sector.

Micro Enterprises in Rural and Urban Areas

11.8 The manufacturing segment of the microenterprises sector in India consisted of almost 17 million enterprises in 2005-06, this having increased drastically by about 4.5 million enterprises in slightly over a decade as Table 11.2 shows. This sector is located mostly in rural areas (71%), but with the rural preponderance having reduced in the period 1994-95 to 2005-06, signaling a sharp growth in the urban informal manufacturing sector between the mid-nineties and the first five years of the twenty first century.

11.9 The sector employed more than 32 million people in 2005-06, this having gone up by more than five million from 1994-95. The rural domination is true of employment in the sector as well although to a smaller extent than the share of microenterprises. The urban informal sector thus employs a larger share of the workforce (34%) than its share of enterprises (29%).

11.10 It may be seen at a preliminary level, therefore, that the micro enterprise manufacturing sector in India is substantial and has been growing over time. In relative terms, this is seen more prominently in urban areas, though the sector is still overwhelmingly located in rural areas.

¹ These have been estimated from NSS 55th Round Employment Unemployment Survey, 1999-2000 (NSSO 2001a)

Table 11.2: Percentage of Unorganised Manufacturing Enterprises and Employment by Location

Location	No. of Manufacturing Enterprises (in million)		
	1994-95	2000-01	2005-06
Rural	9.42 (76.3)	11.83 (70.4)	12.13 (71.3)
Urban	2.92 (23.7)	4.98 (29.6)	4.94 (28.7)
Total	12.34 (100.0)	16.81 (100.0)	17.07 (100.0)
Location	Number of Workers in Unorganised Manufacturing Enterprises		
	1994-95	2000-01	2005-06
Rural	19.03 (71.0)	22.12 (65.6)	21.33 (65.9)
Urban	7.78 (29.0)	11.59 (34.4)	11.03 (34.1)
Total	26.81 (100.0)	33.71 (100.0)	32.36 (100.0)

Note : Figures in brackets are percentage to total

Source: NSSO 51st, 56th and 62nd Round Survey on Unorganised Manufacturing. Computed.

11.11 The services segment of the microenterprise sector in 2001-02 contained 14.5 million enterprises of which 58 per cent were located in rural areas. It employed 26.6 million people, of which 53 per cent were in rural areas. The service sector microenterprises are more evenly represented across rural and urban locations than the manufacturing segment and therefore, in terms of numbers as well as employment there is a greater preponderance of service sector enterprises (more than six million) than manufacturing enterprises (about five million) in the urban informal sector.

11.12 The Commission's *Report on Conditions of Work and Promotion of Livelihoods* (NCEUS, 2007a) has pointed out the various organizational structures whereby labour is employed in the informal sector and demonstrates the wide heterogeneity of labour processes that take place in the sector. Below, we look at this heterogeneity from the point of view of kinds of enterprises, i.e., in terms of size classes of enterprises and industries or activities in both the manufacturing and services segments.

Unravelling the Heterogeneity

11.13 In the manufacturing segment, we can clearly distinguish between three different kinds of enterprises on the basis of kind of employment and numbers employed, i.e., between Own Account Enterprises (OAEs) that do not hire any workers (or function entirely on the basis of the proprietor's or his/her

family's labour) on the one hand and establishments that hire workers, and are of two size classes, those that have between two and five workers and those that have between six and nine workers. About 85% of all enterprises consist of OAEs or may be considered to be self-employed as a whole, with this category experiencing an increase in numbers in urban areas between 1994-95 and 2005-06 (Table 11.3), although urban areas have a more significant presence of enterprises in the 2-5 worker category and to a lesser extent of the 6-9 worker category. The growth in the urban informal manufacturing sector, thus, was through a relative growth in the share of the smallest sized enterprises that are nothing but individuals creating their own work to eke out a living with the possible exception of a tiny share of professionals working on their own.

11.14 The smallest enterprises, however, employed only about 65 per cent of the workers, with this proportion being less than half in urban areas. While in rural areas, well over three fourths of all employment is concentrated in OAEs, enterprises employing 2-5 workers employed about a quarter of the workers in urban areas.

11.15 In the services segment, about 98.7 percent of the informal or unorganized services sector enterprises were proprietary and partnership and of these about 97.8 percent were employing less than ten workers each. In fact 64.1 percent units did not have any worker except the entrepreneur. The overwhelming presence of Own Account Enterprises is seen in the services segment too,

Table 11.3: Share of Unorganised Manufacturing Enterprises by Size of Employment (percent)

Year	NCEUS			Others			All
	OAE	2-5	6-9	Total	< 10	>=10	
1994-95 2000-01 2005-06 1994-95 2000-01 2005-06 1994-95 2000-01 2005-06	Share of Enterprises						
	Rural						
	91.0	6.5	1.4	98.9	0.0	1.1	100.0
	92.3	5.6	1.3	99.2	0.0	0.8	100.0
	91.6	6.1	1.3	99.0	0.0	1.0	100.0
	Urban						
	65.1	23.6	8.2	96.9	0.1	3.0	100.0
	70.5	21.4	5.9	97.9	0.1	2.0	100.0
	71.0	20.1	6.2	97.3	0.1	2.6	100.0
1994-95 2000-01 2005-06 1994-95 2000-01 2005-06 1994-95 2000-01 2005-06	Total						
	84.8	10.6	3.0	98.4	0.1	1.5	100.0
	85.8	10.3	2.7	98.8	0.1	1.2	100.0
	85.6	10.2	2.7	98.5	0.1	1.5	100.0
	Share in Employment						
	Rural						
	78.7	8.8	4.6	92.1	0.1	7.8	100.0
	79.2	8.5	4.5	92.2	0.1	7.7	100.0
	76.5	9.7	4.8	90.9	0.1	9.0	100.0
1994-95 2000-01 2005-06 1994-95 2000-01 2005-06 1994-95 2000-01 2005-06	Urban						
	40.3	26.2	19.1	85.6	0.1	14.3	100.0
	44.6	27.6	16.3	88.5	0.2	11.3	100.0
	43.5	24.9	16.6	84.9	0.2	14.9	100.0
	Total						
	67.0	14.1	9.0	90.1	0.1	9.8	100.0
	67.0	15.2	8.7	90.9	0.1	9.0	100.0
	64.7	15.1	9.0	88.8	0.1	11.1	100.0

Source: *ibid.*

except to a lesser extent than the manufacturing segment. However, more than 40 per cent of employment is concentrated in the establishments hiring 2-5 workers (Table 11.4).

11.16 While a snapshot view of the present would show that the microenterprise manufacturing sector is overwhelmingly rural and dominated by enterprises that

operate without hiring any labour, the changes over slightly over a decade indicate a relative shift of these self-employed manufacturing enterprises towards urban areas. It also indicates the greater presence of establishments in the informal service sector and their greater contribution to employment than the informal manufacturing sector.

Table 11.4: Percentage Distribution of Informal Service Sector Enterprises 2001-02 (percent)

Employment Size	Proprietary and Partnership	Others	All Enterprises
Share of Enterprises			
1	64.14	0.19	64.33
2-5	31.87	0.40	32.27
6-9	1.79	0.34	2.13
Sub - total	97.81	0.92	98.73
10-19	0.71	0.21	0.92
20+	0.15	0.20	0.35
Sub - total	0.86	0.41	1.27
All	98.67	1.33	100.00
Share of Employment			
1	34.96	0.10	35.06
2-5	42.64	0.69	43.33
6-9	6.83	1.35	8.18
Sub - total	84.42	2.15	86.56
10-19	4.89	1.47	6.35
20+	3.16	3.92	7.08
Sub - total	8.05	5.39	13.44
All	92.47	7.53	100.00

Source: NSSO 57th Round Survey on Unorganised Service Sector. Computed.

11.17 How does this overall picture look when we consider the industrial distribution of enterprises as well as employment in both the manufacturing as well as service segments of the micro enterprise sector?

Industrial Distribution of the Micro Enterprise Sector

11.18 When we look at the industrial distribution of the sector, the following five industries account for about 79 per cent of total number of enterprises and about 73 per cent of total employment according to the latest data. These are manufacture of wearing apparel, manufacture of tobacco products, manufacture of food products and beverages, manufacture of textiles and, manufacture of wood and wood products.

11.19 Within these, however, the relative importance of tobacco products and readymade garments went up and food and beverages and wood products went down

over the years. The same broad distribution of industries is seen in rural and urban areas, except that urban areas also showed the presence of fabricated metal products and leather products instead of wood and wood products and rural areas dominated in the wood and wood products, tobacco and food and beverages sectors. Urban areas also showed a greater relative presence of the apparel industry in number of enterprises and employment than rural areas (See Appendix 11.1 and 11.2 for details).

11.20 In the services segment, the major activities were transport and communication, hotels and restaurants, communication and personal services, health and social work, education and real estate and renting activities. Of these, transport and communication accounted for 37% of total number of enterprises and 27.5% of employment followed by hotels and restaurants with 14.9% and 19% respectively.

Contribution to National Income

11.21 In our *Report on Definitional and Statistical Issues Relating to Informal Economy* (NCEUS 2008a), the Commission reported the findings of its exercise to measure the contribution of the informal sector. It showed that the non-farm micro-enterprises sector contributed 32.2 percent of the GDP of the country in 2004-05.

11.22 The contributions of the following sectors to informal sector GDP (excluding agriculture) were substantial: trade (34.7 percent), real estate, renting and business services (16.9 percent), manufacturing (13.5 percent), transport and storage (12.1 percent), and construction (9.4 percent) (Table 11.5). The services segment contributed to three-fourths of the informal sector GDP (excluding agriculture). This shows that micro-enterprises are not only the significant contributors to employment but they also contribute significantly to country's economic growth.

Informal Manufacturing and Productivity: A Disaggregated Picture

11.23 What can be observed about the productivity of various industrial categories among manufacturing sector micro enterprises? The figures clearly show that *the productivity of the five prominent industries is lower (with tobacco being extremely low) than that of industries that are*

Table 11.5: Distribution of GVA Contribution of Non-agriculture Informal Sector by Industry in 2004-05

Industry Group	GVA (Rs Crore)	Share to total informal GVA (Per cent)	Informal sector GVA to Total GVA (Per cent)
Mining	15204	1.65	18.00
Manufacturing	123859	13.47	26.84
Electricity, Gas & Water	1818	0.20	3.00
Construction	86024	9.36	46.33
Trade	318753	34.68	75.08
Hotels & Restaurants	20211	2.20	50.80
Transport & Storage	111220	12.10	44.45
Banking, Finance & Insurance	15588	1.70	9.29
Real estate, Renting & Business Services	155620	16.93	63.44
Public Administration & Defence	710	0.08	0.40
Education	13145	1.43	12.33
Health & Social Work	12323	1.34	23.19
Other Community, Social & Personal Services	38860	4.23	69.44
Private Household & Extra territorial Organisation	5894	0.64	95.29
Total	919229	100.00	49.94

Source: Computed from Table 5.2, Report on Definitional & Statistical Issues (NCEUS 2008a)

less prominent such as leather and leather products, paper, plastic, basic metals, metal products and the whole range of machinery and transport equipment. These are also sectors where both capital to labour ratios and the capital employed per enterprise are significantly higher than the five prominent industries.

11.24 This brings out another characteristic of the micro enterprise, in the manufacturing sector, that of productivity going up with enterprise size and also being strikingly different between rural and urban areas, as Tables 11.6 and 11.7 clearly show. We computed the GVA per worker, which is a standard proxy for

Table 11.6: GVA Per Worker (Rs) in Unorganised Manufacturing Enterprises by Size

Year	NCEUS			Others		All
	OAE	2-5	6-9	< 10	>=10	
1994-95	Rural					
	6441	12821	13156	19162	13541	7945
2000-01	9835	19618	22015	109199	20821	12292
1994-95	Urban					
	13502	25279	30740	83352	34348	23003
2000-01	15823	31887	38968	39889	37692	26882
1994-95	Total					
	7798	19937	24551	48793	22830	12712
2000-01	11277	27521	33353	69957	28331	17617

Source: NSSO 51st, 56th and 62nd Round Survey on Unorganised Manufacturing. Computed.

Table 11.7: GVA Per Worker in Unorganised Manufacturing Enterprises by Size, 2005-06 (Rs.)

	OAE	2-5	>= 6	All
Rural	10446	26909	41887	16211
Urban	16300	43308	65298	38167
Total	11846	36543	55052	24034

Source: *ibid*

productivity, for the NCEUS definition of enterprises for two NSSO rounds, the 51st and the 56th, but used aggregate figures for 2005-06. For 2005-06, the GVA per worker of OAEs (at Rs.11846) was less than a third that of the next sized enterprise employing 2-5 workers (at Rs.36543) which, in turn, was about two-third that of the largest sized micro enterprise, the enterprises employing 6-9 workers or more (at Rs. 55052). For each size-class, the productivity of enterprises was higher in urban areas than the rural areas.

11.25 In the services segment too, for all categories of enterprises employing more than five workers, there is an unambiguous increase in productivity with the size of the enterprise (Table 11.8). Own account enterprises and establishments employing 2-5 workers have substantially lower productivity.

11.26 In the manufacturing segment, the greater productivity of larger sized enterprises is also reflected in

Table 11.8: Average Gross Value Added Per Worker in Different Categories of Unorganized Services Sector Enterprises 2001-02

Average Gross Value Added Per Worker (Rs.)			
Employment Size	Proprietary and Partnership	Others	All Enterprises
1	23,484	23,405	23,484
2-5	21,802	27,170	21,882
6-9	31,442	24,786	30,342
Sub - total	23,278	25,491	23,333
10-19	32,992	35,600	33,594
20+	56,320	103,227	82,284
Sub - total	42,159	84,809	59,263
All	24,921	67,916	28,160

Source: *ibid*

their growth status. A relatively higher proportion of enterprises in all size-classes reported stagnation over a period of time (55% of OAEs, 44% of establishments employing 2-5 workers and 39% of establishments employing 6-9 workers). However, a significantly larger proportion of 6-9 size-class enterprises are classified as growing (32%) as compared to 2-5 size-class enterprises (23%) and OAEs (18%).

11.27 The picture of assistance received by the micro-enterprise sector corroborates the idea that the development process has delivered very little to the sector. The large majority of micro-enterprises (92%) do not receive any assistance, this being highest for self-employed enterprises (95%). On the contrary, larger sized enterprises are progressively receiving a greater share.

The All-India Picture

11.28 What, then, may be considered to be the salient characteristics of the micro enterprise sector in India?

First, it is clear from the above that there is a preponderance of the self-employed or Own Account Enterprises in the manufacturing as well as the service segments of the micro enterprise sector. This dominant organizational category is overwhelmingly concentrated in rural areas. Urban areas, although numerically dominated by OAEs, also have a substantial presence (almost 30% on an average) of establishments.

Second, more than 40% of employment in urban areas is concentrated in establishments, whereas employment in rural micro enterprise sector is still primarily OAE based.

Third, over the years, there has been a relative rural to urban shift in the micro enterprise sector, and within this, it is the OAEs that have shown growth. The growth of the urban informal sector, therefore, has seen a growth in the smallest sized enterprises, even as establishments contribute to a significant part of employment in urban areas.

Fourth, there is a distinct difference in levels of productivity between rural and urban areas, with

the former being substantially lower than the latter over all three rounds. This is because urban enterprises are relatively more capital intensive.

Fifth, five industrial categories (manufacture of wearing apparel, manufacture of tobacco products, manufacture of food products and beverages, manufacture of textiles and manufacture of wood and wood products) account for the majority of number of enterprises as well as employment in the micro enterprise sector. However, these categories, which embody lower capital intensity, also have low productivity, bringing down the productivity overall. At the same time, the sector also consists of industries that involve greater capital intensity (leather products, machinery and equipment, for examples). which have greater productivity. All this has implications for policy.

Sixth, the dominance of own account production as well as the five lower productivity industries mentioned above indicate a large mass of enterprises that have gained very little from the development process. While we observe clearly that the micro enterprise manufacturing sector in India is not monolithic and uniquely identifiable as a large amorphous mass outside the formal economy and independent of it, it is clear that the development process has delivered very little to the sector. The large majority of micro enterprises do not receive any assistance, this being highest for self-employed enterprises, while larger sized enterprises progressively receive a greater share. The domination of the tendency of self-employment, and the accompanying decline in productivity is probably indicative of distress under industrial organization systems that are integrally linked to the formal sector.

Finally, the organic links with larger enterprises and with larger economic process can be inferred from information that shows that in many cases,

these enterprises are not isolated and have linkages, operating on contract very often. About a third of the micro enterprise sector was seen to operate on contract in 2005-06, with this being seen more for self-employed enterprises. Further, the self-employed enterprises under contracts appear to work primarily as captive units for single contractors or master units to a greater extent than establishments with hired workers. It is possible to hypothesize, therefore, that at least a third of self-employment in the manufacturing micro enterprise sector is disguised wage work, as the Commission has pointed out earlier. The nature of the contracts also shows that for all kinds of enterprises, the contracting relationship is such that raw material is provided by the contractor and production takes place under design specifications provided by the contractor, signaling putting-out types of contract. Disaggregated by industries, contractual production is seen prominently for tobacco, textiles, paper, chemicals, basic metals and motor vehicles and less prominently for leather, rubber and plastics.

We now turn to the regional spread of the sector.

A Regional Picture

Manufacturing sector (2005-06)

11.29 Geographically, the number of urban micro enterprises was a little over a third of the rural in the manufacturing sector. This was true for micro enterprises with less than six workers too. However, in the category of larger of the micro enterprises, urban areas accounted for roughly twice the number in rural areas.

11.30 The geographical spread can be assessed in terms of area and population. In terms of enterprises per sq kilometre, the national average was about 5 enterprises. The state of Delhi had the highest density of 66 enterprises per sq kilometre, followed by West Bengal (31), Kerala (17) and Tamil Nadu (11.4) (Table 11.9).

Table 11.9: Estimated Number of Unorganised Sector Manufacturing Enterprises per square kilometre by Type of Enterprise, Top 10 and Bottom 5 States, 2005-06

Sl No.		OAME	NDME	DME	All
Top 10 states					
1	Delhi	12.1	32.2	21.6	66.0
2	West Bengal	27.4	2.8	0.8	31.0
3	Kerala	12.7	3.4	0.8	17.0
4	Tamil Nadu	9.1	1.6	0.7	11.4
5	Uttar Pradesh	8.5	1.1	0.3	9.9
6	Bihar	7.7	0.5	0.0	8.2
7	Jharkhand	7.0	0.3	0.0	7.4
8	Orissa	5.9	0.2	0.0	6.1
9	Punjab	4.4	1.2	0.2	5.8
10	Andhra Pradesh	5.0	0.4	0.2	5.6
Bottom 5 states					
11	Jammu & Kashmir	0.7	0.1	0.0	0.8
12	Nagaland	0.5	0.1	0.0	0.6
13	Sikkim	0.5	0.1	0.0	0.6
14	Mizoram	0.2	0.0	0.0	0.2
15	Arunachal Pradesh	0.0	0.0	0.0	0.0
	India	4.45	0.54	0.21	5.19

Source: Estimates based on enterprises data from the NSS (NSSO 2008).

11.31 In terms of enterprises per 1000 population, not surprisingly, the urban density was higher than rural density. The difference is, however, not striking with 18 and 16 enterprises per 1000 population in urban and rural areas respectively.² Also in terms of ranking, the states with higher urban enterprise density are the same as those with higher urban population density. In rural areas, West Bengal, Orissa, Jharkhand, Tamil Nadu, Manipur and Kerala had the highest density in respective order. West Bengal has about 39 enterprises per 1000 population while the top 5 had over 20 enterprises per 1000 population. In the urban areas it was Manipur, West Bengal, Tamil Nadu, Andhra Pradesh and Kerala respectively in order, each having more than 20 enterprises per 1000 population.³ Taking both rural and urban areas together, the highest density was in West Bengal, Orissa, Tamil Nadu, Manipur and Jharkhand in order, each having a density of over 21 enterprises per

1000 population (Table 11.10). The least density was in the north eastern states of Mizoram, Nagaland and Arunachal Pradesh.

11.32 Analysis of available statistics reveals that fixed assets are positively associated with labour productivity. The states with average higher fixed assets per worker were also the states with higher gross value added per worker. There are also notable differences between average fixed assets per worker in rural and urban areas within states. In addition, in terms of both fixed assets per worker and gross value added per worker, large variations are seen across states and between urban and rural areas. States that are well recognised as 'rich states' are also those having relatively higher average labour productivity and fixed assets per worker. The variations are more pronounced in the estimates of gross value added per worker than in the fixed assets per worker. For example,

2 The population figures are for 2001 from the population Census, while the estimates for the number of enterprises is for the year 2005-06. A similar exercise was done with population projection for the year 2006 and the distribution across India is similar.

3 Rural and urban figures for all states and union territories are given in statistical appendix table A8 and A9 respectively (Kannan and Pais 2008).

Table 11.10: Estimated Number of Unorganised Sector Manufacturing Enterprises per 1000 population, by Enterprise Type, Top 10 and Bottom 5 States, India, 2005-06

Sl No.		OAME	NDME	DME	All
Top 10 states					
1	West Bengal	30.4	3.1	0.9	34.3
2	Orissa	24.8	1.0	0.2	26.0
3	Tamil Nadu	19.0	3.3	1.4	23.7
4	Manipur	21.4	1.4	0.2	22.9
5	Jharkhand	20.7	1.0	0.1	21.7
6	Kerala	15.5	4.2	1.0	20.7
7	Andhra Pradesh	17.9	1.5	0.7	20.1
8	Karnataka	15.3	1.5	1.4	18.2
9	Himachal Pradesh	16.0	1.5	0.2	17.7
10	Jammu & Kashmir	15.6	1.2	0.2	17.1
Bottom 5 states					
11	Goa	4.6	2.3	0.7	7.6
12	Sikkim	6.4	1.1	0.1	7.6
13	Delhi	1.3	3.4	2.3	7.0
14	Mizoram	4.7	0.9	0.1	5.7
15	Nagaland	4.4	0.5	0.0	5.0
16	Arunachal Pradesh	0.5	0.3	0.0	0.8
	India	14.4	1.7	0.7	16.9

Source: *ibid*

the state with highest fixed assets per worker (Haryana) had an average value that was 20 times that of the state with the least (Orissa). The variation of estimates of fixed assets per worker in rural areas across states was larger than the corresponding variation across urban areas. Similarly, the variation in the estimates of gross value added per worker across states in rural areas was higher than in urban areas.

11.33 In rural areas, the national average for fixed assets per worker was Rs 20,025. The highest average fixed assets per worker was in Goa (Rs 124,249), followed by Delhi (Rs 113,879), Haryana (Rs 79,371) and Punjab (Rs. 57,405). The lowest was in Tripura (Rs 5,137). In urban areas, the national average for fixed assets per worker was about Rupees 74 thousand. Haryana (Rs 2,18,299) topped the list of states with highest fixed assets per worker in urban areas. The lowest was in Bihar (Rs 30,773) and Orissa (26,735). Thus combining urban and rural areas, the states with highest fixed assets per worker were Chandigarh, Haryana, Goa,

Delhi, Pondicherry and Punjab. While on the other end of the ladder were West Bengal, Assam, Bihar, Jharkhand, Tripura and Orissa, with Orissa having the least (Table 11.11).

11.34 Comparing enterprise density and capital intensity (measured as fixed assets per worker), we find states with high density of unorganised sector enterprises with respect to population have in general lower average fixed assets per worker. Smaller states with high geographical density of enterprises have higher average fixed asset per worker. This is, however, not true for larger states. In other words geographic density of enterprises does not seem to be associated with higher capital intensity.

11.35 The national average gross value added per worker in informal manufacturing sector was Rs 24,034, however, the variation across states was large and ranged from Rs. 1,21,799 in Arunachal Pradesh to Rs. 9,638 in

Table 11.11: Average Fixed Assets per Worker in Unorganised Manufacturing, by Enterprise Type, Top 10 and Bottom 5 States, India (rural + urban), 2005-06 (in Rs)

Sl No.		OAME	NDME	DME	All
Top 10 states					
1	Haryana	109057	213675	183223	161006
2	Goa	99669	107161	162258	124612
3	Delhi	155992	130832	114134	122695
4	Punjab	62699	150136	129134	100971
5	Maharashtra	34524	135688	105433	81287
6	Uttaranchal	36718	107594	132434	73386
7	Mizoram	43957	102422	153563	70091
8	Himachal Pradesh	37658	108226	186123	61830
9	Jammu & Kashmir	35987	121453	260532	60899
10	Gujarat	34003	104664	63055	54942
Bottom 5 states					
25	West Bengal	9417	35160	38905	16983
26	Assam	11347	27933	46719	16918
27	Bihar	14586	30146	33690	16151
28	Jharkhand	9487	30688	34999	12076
29	Tripura	11936	8563	15392	10796
30	Orissa	4749	31794	49029	7937
	India	20193	76149	73360	39245

Source: *ibid*

Orissa (Table 11.12). States with high density of informal sector enterprises with respect to population have in general lower average labour productivity. Smaller states with high geographic density of enterprises (urbanised states) have a relatively high average labour productivity while larger states with high geographic density of enterprises have lower average labour productivity.

Services sector MSE (2001-02)

11.36 Geographically, micro enterprises in the service sector were more uniformly spread across urban and rural areas in comparison with total population or total employment. While urban India accounted for only 22.9 per cent of total employment, in the services sector, urban enterprises accounted for about 47 per cent of total MSEs. Besides the smaller city states such as Delhi and Chandigarh, larger states such as Maharashtra, Karnataka Tamil Nadu, Punjab and Haryana, had a proportionately larger number of urban than rural micro enterprises. In general, the proportion of micro enterprises (in services) was, however, relatively higher in rural areas. The largest

concentration of micro enterprises was in Uttar Pradesh, followed at a distance by West Bengal, Bihar, Andhra Pradesh and Maharashtra. In terms of total employment in services sector, Uttar Pradesh was the first followed by Maharashtra, Andhra Pradesh, West Bengal and Tamil Nadu. In terms of labour productivity and fixed assets per enterprise, the leading states were Delhi and Gujarat.

11.37 To sum up, the analysis in the preceding section shows that the association between capital intensity and labour productivity is valid across states in India. States with higher capital intensity have higher levels of labour productivity. The analysis also shows that geographic density of enterprises does not seem to be associated with higher levels of capital intensity or labour productivity. The geographical spread of the micro enterprises shows that the relatively poorer states such as Uttar Pradesh, West Bengal, Bihar and Orissa were having relatively larger density of enterprises. However, these states also formed part of the group having low average levels of productivity. On the other hand, faster growing and high income states such as Punjab, Haryana, Gujarat and

Table 11.12: Annual Gross Value Added per Worker in Unorganised Manufacturing, by Enterprise Type, Top 10 and Bottom 5 States, India (rural + urban), 2005-06 (in Rs.)

Sl No.	State	OAME	NDME	DME	All
Top 10 states					
1	Arunachal Pradesh	78645	100756	172327	121799
2	Goa	23796	55912	82392	55399
3	Delhi	31636	41182	61452	52277
4	Haryana	25453	54865	87649	50461
5	Sikkim	22649	46954	253101	49263
6	Maharashtra	17758	67788	70032	47332
7	Jammu & Kashmir	24316	58198	172764	38165
8	Punjab	22466	50650	62283	37864
9	Mizoram	27170	51349	50719	35835
10	Meghalaya	22095	43227	60439	34948
Bottom 5 states					
11	Manipur	10486	32761	41583	14633
12	Madhya Pradesh	8578	33088	54318	14544
13	Jharkhand	11208	32468	53368	14389
14	Bihar	12425	24694	49090	13976
15	Orissa	7027	23882	50340	9638
	India	11846	36543	55052	24034

Source: *ibid*

Maharashtra had the micro enterprises that had relatively higher levels of productivity. In other words, while the spread of micro enterprises is in some sense in line with the spread of population and of economic activity in general, the distribution across states and between urban and rural areas shows that better off states and urban areas have micro enterprises that perform better in terms of productivity. If higher productivity is an indicator of better quality of work at least in terms of earnings in the micro enterprises (given the self-employed nature), then we may conclude that the quality of jobs in the micro enterprises in the urban areas is likely to be better than the quality of jobs in the rural areas. Similarly, the quality of jobs in the relatively better off states is likely to be better than that of poorer and backward states.

Major Industrial Groups (Enterprises) by States

11.38 The Commission finds that in states with a higher concentration of enterprises, the categories of tobacco, food and beverages, wood products and textiles formed the bulk of enterprises. It must be pointed out

here that 'manufacturing of tobacco products here basically refer to beedi making. However, the states that show greater diversification are UP (with presence of fabricated metal products and non-metallic mineral products), West Bengal (with presence of apparel and tanning as well), Tamil Nadu (with chemical products), Maharashtra (with fabricated metal products) and Bihar (with non-metallic mineral products). In contrast, Karnataka's micro enterprise sector was dominated by tobacco products and Orissa with wood products.

11.39 We also examined which states dominate in the production of the five major industrial categories and the information is presented in Appendix 11.3.

11.40 The results suggest that Uttar Pradesh and West Bengal led in textiles, in both rural and urban areas. For wearing apparel, Andhra Pradesh, Maharashtra and Uttar Pradesh were the major contributors in both rural and urban areas. Tamil Nadu and West Bengal also contributed relatively better share in urban areas.

11.41 In rural areas, West Bengal's relative contribution to the production of tobacco product was the highest

(29 percent). However, in urban areas, Madhya Pradesh (21.5 percent), Tamil Nadu (21.3 percent), Karnataka (17.0 percent) and Andhra Pradesh (16.0 percent) were the major contributors of tobacco products.

11.42 In the production of food and beverages, Uttar Pradesh, West Bengal and Orissa had a higher share in rural areas while Uttar Pradesh and Maharashtra led in urban areas.

11.43 For wood products, West Bengal and Orissa were the largest producers in rural areas (18.7 and 16.3 percent respectively). However, in urban areas, Uttar Pradesh and Andhra Pradesh had the largest shares (14.8 and 12.2 percent respectively).

11.44 Overall, Uttar Pradesh had a relatively better contribution in the production of textiles, wearing apparel, food & beverages, wood products. There were not much rural-urban differences within UP. West Bengal's contribution was also better in the production of textiles in both rural and urban areas. However, rural areas in West Bengal had the dominance in the production of tobacco products (mainly beedi making), wood products, and food & beverages, both within the state as well as relative to other major states.

11.45 The Commission has an interesting finding from the state level information (from the NSS 56th round) which accounted for an overwhelming share of employment and number of enterprises. The industry 'furniture and manufacturing n.e.c' consisting primarily of gems and jewellery was dominant in Gujarat and Rajasthan and sports goods in Punjab. It is known that these industries are linked to international value chains quite significantly and the substantial presence of micro enterprises in these industries points to a possible link between these enterprises and global value chains.

11.46 From the state-level picture too, therefore, we can surmise that the micro enterprise sector, while being dominated by a few industries which show relatively lower productivity, actually shows considerable variation, warranting specific policy measures that consider the organizational structures of these different industries as well as the constraints faced by them.

Constraints faced by Micro Enterprises

11.47 The 1999-2000 NSSO survey contained information for the entire informal sector (NSSO 2001b), including manufacturing, trade and services and thus allows us comparisons for the same year across the entire non-farm sector. The information available is based on the perceptions of the entrepreneurs and workers in the sector. The Commission feels that this needs to be approached with caution because, especially in the case of the informal sector, the constraints that actually exist might not fully be perceived by the different agents concerned.

11.48 First, constraints depend upon the nature and reach of markets. Enterprises producing purely for local markets, typically face narrow and lower quality markets, and thus typically tend to have less information about markets as well as lower skills. Typically, women and people from lower castes tend to be concentrated in such enterprises and there is intense overcrowding due to a lack of diversification opportunities. The immobility and the narrowness of markets due to market, gender and caste constraints result in such producers limiting themselves to producing within the parameters of the segment where they have access, and such enterprises very often become avenues for residual employment and survivalist production. Within the informal sector, therefore, sectors/industries that consist of women entrepreneurs or those who belong to socially disadvantaged groups thus get locked into a low productivity- low income vicious cycle.

11.49 Second, the nature of markets and the level of operation of the enterprise might result in several constraints not being perceived at all. For example, the NSSO Survey of Informal Sector 1999-2000 (NSSO 2001b) showed that 31 per cent of all enterprises across manufacturing, trade and services reported no specific constraint being experienced, with this perceived lack of constraint being higher than average for Construction, Transport, Storage and Communication and Other Services. Certain obvious constraints that are well recognized as affecting informal enterprises significantly, such as skills and technological development, are not reported by enterprises at all. As far as skills are concerned,

those working in the informal sector very often see little need for further skills acquisition and have little knowledge about where to go even if the skills are acquired. For example, Kantor's study (Kantor 1999) of garment production in Ahmedabad found that neither men nor women in the sample felt that they lacked the skills needed for their work. Similarly, hardly any enterprise reported a dearth of labour as a constraint. However, this does not mean that there are no skill deficits or that a lack of skills is not a problem for informal enterprises. In many cases, it has been clearly seen that access to more discerning markets has resulted in greater skill or training requirements, but informal sector operators who are not able to access training because of lack of motivation, access or resources get left out of upgrading possibilities. Similar considerations hold for technology upgradation as well.

11.50 Third, especially in the case of informal enterprises, gender and social factors such as caste play a very major role in defining constraints faced by enterprises run by women and people belonging to lower castes. For example, in the leather industry in Kolkata and Agra, while entrepreneurs came from among traditional leather working communities from the colonial period onwards, enterprises owned by them faced systematic barriers to expansion, access to credit and technology upgradation, limiting their reach to local and domestic markets and also restricting size expansion. In both these cases, the diversification towards production for exports was done by entrepreneurs from more affluent backgrounds who enjoyed wider access to capital and higher mobility unlike those who had low caste status.

11.51 It is in this context that the Commission addresses the issue of constraints faced by micro enterprises keeping in mind all these aspects even while looking at an overall picture.

11.52 Most informal entrepreneurs in India face certain common constraints: notably, limited (or no) access to capital, other productive assets, education/training, infrastructure services, access to and knowledge of markets, technical assistance, organisation and bargaining power, and competition from each other and larger units. The NSSO survey 1999-2000 showed that two-thirds of the

informal sector reported experiencing specific constraints, this being true for both OAEs and establishments.

11.53 The constraint that is most severely experienced by informal enterprises is shortage of capital, as noted earlier, with more than 50 per cent of all enterprises experiencing a capital constraint in Transport and Storage and Hotels and Restaurants and 40 per cent in manufacturing. When entrepreneurs were asked about how severely they experienced the reported constraint, credit came out as the most severely experienced constraint across the board followed remotely by marketing, local problems and competition from larger units.

11.54 About 17 percent of all informal enterprises reported lack of marketing and other infrastructural facilities, with manufacturing and trade reporting this more acutely. Higher than average figures were seen for tanning, wood products, metal products and machinery and equipment. About 17 per cent reported competition from large units, with T&R, Hotels and Restaurants and Transport, Storage and Communications experiencing it more. Within manufacturing, tanning, publishing and recorded media, basic metals and machinery and equipment experienced this constraint in large numbers. In the services segment, a larger than average number of units in sale and repair of motor vehicles, supporting transport activities and posts and communication experienced competition as a constraint.

11.55 However, it has to be recognized that in spite of the existence of common problems, the stark differences in situation faced by different kinds of enterprises requires a distinction between livelihood constraints and growth constraints. For a large number of very poor and vulnerable enterprises, such as own account enterprises, those run by women, SCs and STs, the same constraints stand in the way of their eking out an existence, of survival. In other cases, enterprises are positioned in networks or clusters which, if given support, can result in the growth of the enterprise as well as in its conditions. Growth-oriented micro enterprises have the ability to provide jobs and grow in scale. Because the growth-oriented micro enterprise sector is largely ignored, a number of entrepreneurs with the potential to grow are stifled at the point of self or only family employment. Growth-

oriented micro enterprises are located between those that can be seen as generating household income support, and small and medium enterprises. A growth-oriented micro enterprise can be dynamic and driven by motives of entrepreneurship, i.e., having potential for increasing economic opportunities, and creating jobs as well as increasing asset accumulation for resource-poor entrepreneurs. The successful ones demonstrate potential for graduating from being subsistence enterprises to being growth-oriented and have established linkages with the small and medium enterprises (SME).

11.56 However, in spite of the fact that there are examples of own account or subsistence enterprises making the transition to greater size and growth, it has been generally seen that the constraints faced by such enterprises in the manufacturing as well as trade and service sectors are specific and have to be addressed separately. The next section therefore addresses the specific constraints faced by own account enterprises.

Own Account Enterprises: Constraints to Livelihood?

11.57 We have noted earlier that own-account enterprises dominate the manufacturing as well as services segments of the micro enterprise sector. In the manufacturing segment, it has grown over time across industries and locations. It was also noted that there was a relative shift in the distribution of own account enterprises to urban areas, although rural areas still dominate. In the case of the garment industry, especially, the Commission found a disproportionate shift towards own account production, which possibly indicates a structural shift in the organization of the industry.

11.58 Organizationally, own account production can be distinguished into that taking place within households and that outside the household. Within the household, there are enterprises that operate on the basis of family labour like a traditional tannery that undertakes tanning, operated by a tanner with the help of family labour or handloom weaving, where a weaver operates a loom worked by himself and his family. This kind of unit would have the status of a proprietary enterprise which organizes production on its own, acquires its own raw material, uses its own machinery and tools and markets its products.

It has been seen in many surveys that two thirds of own account production, if all industries are taken together, is such standalone production. A variant of this would be one where the production is organised in proprietary, family labour based form but undertaken on the basis of orders, either from co-operatives or agents and contractors. When there is contract production, the only difference is that the entrepreneur does not look out for markets on his own but sells to a cooperative, contractor or a larger enterprise. The handloom industry across the country consists of such production, with a major aspect of the crisis of handlooms being due to the decline of cooperatives.

11.59 There are also household enterprises that consist of home workers, working on piece rates on orders placed by traders, agents or larger enterprises. The home-based unit can have a variety of relationships with the market. These vary from a dependent subcontractor who produces for a shopkeeper, manufacturer or contractor, to an independent own account operator who sells directly in the market. In reality, many home based operators are neither purely independent nor purely dependent. For example, in garment production, there are those outworkers or home workers who get work orders and raw materials from a trader or contractor, perform a certain operation and return it to the trader/contractor to be paid by the piece.

11.60 Studies of garment production in Bangalore and Ahmedabad have found this form to be proliferating and getting intensified in these cities Chen, Jhabvala and Nanavaty (2003) for Ahmedabad, Raychaudhuri and Ajitava (2004) for Bangalore. These garment makers use their own sewing machines and often buy their own thread as well. There are also dual-status producers who get some work from the trader and produce for him/her on a piece-rate basis but also buy raw materials on their own and produce for others. This is to offset the adverse impact of seasonality of orders and generate income supplement for themselves by undertaking own production partially. Then there are independent garment makers who produce on their own with or without the help of other family members and sell the products in the open market. In the case of the household enterprise consisting of homeworkers, the existence of a market is not the

constraint, but the seasonality and volatility of demand and the low rates received that are the chief constraints.

11.61 The example of garments provided above is typical of a large number of other industries as well where own account manufacturing, both in household and non-household form, is found to be predominant. While the NSS survey showed that own account operators report credit as the most overwhelming constraint faced by them, field studies show that lack of market knowledge, market experience and control over seasonality of markets is a major problem. Own account operators typically do not have direct access to information on shifting markets, and learn about changes in demand only indirectly through middlemen or contractors. This is particularly true for women in own account manufacturing, particularly in home based production due to cultural norms that restrict women from moving freely about in local markets and, thus, from establishing direct contacts with persons who have this information. This is also partly due to the fact that medium to large-sized enterprises are simply better positioned, through direct access to buyers as well as through information technology, to detect shifts in domestic and international markets and to compete for market orders.

Constraints faced by Establishments

11.62 As we pointed out earlier, among enterprises hiring workers, there are two size categories, those enterprises having 2-5 workers and those having 6-9 workers. We noted in the previous section of this chapter that there is a definite tendency for productivity to go up with the size of the enterprise as well as with capital intensity of the industry. This is also the segment with tremendous employment potential. What are the constraints faced by this segment of the informal sector? The NSS data does not show any distinct difference between this segment and the OAEs as far as the reporting of constraints is concerned. However, secondary studies indicate that this segment is where the identification of constraints and redressal can result in major productivity gains and growth prospects, especially where such firms link up between themselves or with larger units.

11.63 We have seen that in spite of the numerical prominence of OAEs and also their increasing importance

over time, substantial part of the informal sector employment consists of establishments employing from 2 to 9 workers. Do such establishments face growth or survival constraints?

11.64 While the scales of operation of the establishments with hired workers as well as their productivity were greater than OAEs, the reported problems faced by them were similar. Shortage of capital was the major problem faced by both the large and small informal enterprises. Competition from larger units was the second most prominent reported problem faced by the enterprises with hired workers, while this was only one of the problems faced by the OAEs. Whereas lack of infrastructural facilities was noted by both small and large enterprise as a problem, the large establishments also noted power related problems as a major issue of concern.

11.65 Due to lack of statistics pertaining to the problems and constraints faced by the establishments with hired workers, including organizational forms in different industries, the Commission looked at secondary studies of different industries where the informal sector predominates and is prominently seen in establishment form. These are the leather industry and the automotive component industry.

11.66 Organizationally, establishments range from tiny stand-alone workshops that hire workers, possess their own tools and machinery, procure their own raw materials and market their own products to similar enterprises that are part of densely interlinked structures of inter-firm relations, both vertical and horizontal with differences with regard to access to raw materials or to markets. In the first case, examples of which are found in a range of industries from food and beverages on the one hand to metalworking units, manufacturers of machinery, plastics and chemical products, the major constraints that are faced are those of low margins due to low turnover, lack of working capital and narrowness of markets. Very often, these enterprises are located in clusters, but function independently without inter-firm linkages. A diagnostic study commissioned by the NCEUS found that in Chennai, the automotive component industry cluster consists of thousands of engineering workshops that do

job work for the industry and for other industries as well (Mahadevan and Dennis 2008). Most of these workshops use conventional machine tools and employ experienced people who have at least an ITI qualification. They experience a skill deficit for specific jobs, but continue to produce because there are large labour supplies available in the cluster and there is a lot of learning on the job. A few units are run by entrepreneurs without formal technical education but a lot of shop floor experience in other small or medium units. They operate at low margins because of cut-throat competition, setting upper limits to the extent of growth and up gradation. A similar situation is observed in old industrial areas of Kolkata such as Tiljala, which has a concentration of leather tanning workshops and engineering workshops. This cluster functions merely as an agglomeration of large numbers of establishments that undertake mostly independent production, in activities ranging from those using traditional skills, as in leather tanning and more sophisticated technical knowledge as in the engineering industries.

11.67 In establishments that are situated within systems of inter-firm linkages between firms catering to a single industry, or single product clusters, constraints that affect the entire industry are likely to affect these units acutely, in addition to specific constraints faced by them. In a study of the leather industry in India, informal sector enterprises were found to face a major raw material problem (Damodaran 2007), that of insufficient availability and large fluctuations in the supply of raw hides and skins that affects the industry as a whole, but affects informal enterprises disproportionately. The solutions that have been tried out to alleviate this problem have mostly resulted in the needs of large enterprises being taken care of, rather than addressing the raw material constraint faced by informal enterprises in the leather industry specifically. For example, as part of the drive to maximize exports from the sector, government opted to cut import duties on imported leather to facilitate its use for export production, even as large supplies of indigenous raw material get destroyed due to insufficient facilities, technological access and incentives for collection, preservation and transport of raw hides and skins. Informal enterprises are engaged in activities that

require them to access domestic raw material at very high prices and of uncertain supply and quality.

11.68 Another problem that affects informal enterprises that hire workers possibly more acutely than larger enterprises is that of demand fluctuations due to uncertain and volatile markets, changing technologies, transformation in market networks and so on. Very often, independent producers in the informal sector turn into captive tied units producing for larger enterprises that produce for national and even international markets. In a study of rural industries in West Bengal, Maity (2008) noted this organizational change taking place in clayworks, hornware, conchshell and lac industries in four districts of the state between 1991 and 2001. In a situation like this, where tiny units forge linkages with value chains to rid them of the burden of marketing and also very often raw material supply, the major constraint that they face is in recovering their dues from the larger units or the government. The NSS 55th round survey found that this was cited as a significant constraint. Thus, while the local market would have set an upper limit to the possibilities of growth of independent units that supply to it, tied production by these very units for more distant markets creates newer constraints in terms of low rates received for work done. The alleviation of this constraint, in turn, can only take place if along with the access to longer distance markets, there is a regulation of incomes earned by the entrepreneurs of the units.

11.69 At this point, the Commission would like to draw attention to a serious constraint faced by informal establishments, especially when they are connected to long distance markets, of limited possibilities for skill and technological up gradation. Typically, in establishments, both workers as well as entrepreneurs require training and skill up gradation that can be certified and adhere to uniform standards. Across different market and consumer segments, standardization of quality is essential to ensure effective marketing of the products of the sector and up gradation of skills is essential, along with other inputs, to achieving standardization. The viability of large parts of the informal economy might itself be contingent on the existence and provision of

formal, standardised skills. However, the realities of production conditions in these enterprises generate motivational problems that are severe, which is very often termed as 'ignorance'. Working hours are often long and any time off from the productive work means less income, which would affect the willingness of entrepreneurs and workers to join a training programme, even if it is relevant and easily available. It is also unlikely that informal sector entrepreneurs will provide their workers time off for training. In fact, skilling workers may appear threatening for the entrepreneurs because skilled and trained workers may demand higher pay, leave to work for competitors or establish enterprises themselves. Even if informal entrepreneurs do not report a scarcity of skills as a constraint, it becomes a serious barrier towards upgrading.

11.70 A similar situation exists for technology upgrading. For instance, the Firozabad glass cluster in U.P, with a major concentration of micro enterprises, produces consumer glass products such as table glassware, bangles, beads, lampshades and so on. It has been seen that the cluster consumes 30 per cent more energy than comparable clusters in Europe, has much lower life of the furnaces used, results in lower quality and breakage resistance of glass produced and so on. The UNIDO and the Government of India have set up facilities for technology up gradation in the cluster, but market uncertainties, lack of information and the labour process have resulted in poor adoption of available technology.

Sub-Contracting: An Aspect of Linkages between Micro and Large Enterprises

11.71 In several countries including India, industrial policy has incorporated elements that promoted subcontracting between large and small enterprises. For example, the Government of India has initiated measures such as ancillarization, vendor development programmes and subcontracting exchanges. There are a large number of similar efforts in Japan, Italy, and Spain and elsewhere where governments, national and local, undertook measures not only to promote small and medium enterprises, but these promotional measures had an active component of linking small enterprises with larger enterprises.

11.72 In India, the published data sources seem to indicate that between 25 and 30 percent of enterprises in the unorganised sector operate under contract with larger enterprises, i.e., under some system of subcontracting. It also appears as if this might be an increasing trend over time. Besides the published data sources, individual researchers have also come up with generally higher incidence of subcontracting (38.6 percent by Sahu (2005), and 46 percent by Pais (2004), for instance), based on sample survey of small scale units.

11.73 The nation-wide NSSO surveys of unorganised manufacturing enterprises are the first of its kind to give information about the magnitude of subcontracting separately in rural and urban India since 2000–01. The data suggests that the overall incidence of subcontracting has increased, albeit marginally, from 31 percent in 2000–01 to 32 percent in 2005–06. In addition, the incidence is greater for urban units for all the three types of enterprises (OAMEs, establishments with 2–5 hired workers and those with 6–9 hired workers). Within subcontracting enterprises as a whole, those who were working solely for the contractors/master units and did not sell independently on the market consisted of 24.4 and 26.6 per cent in 2000–01 and 2005–06 respectively.

11.74 The 1999–2000 NSSO survey of non-agricultural enterprises in the informal manufacturing sector also gives an estimate of incidence of subcontracting. It shows that nearly 27.3 per cent of rural, and 31.5 per cent of urban enterprises, work under subcontracting system. The incidence of sub-contracting is relatively larger among the tiny enterprises (OAEs), as compared with larger-sized units (establishments). But the magnitude of contract is higher for the urban located units both for OAEs and establishments.

11.75 The incidence of subcontracting is much higher in West Bengal (54 per cent), followed by Tamil Nadu (52 per cent), Karnataka (39 per cent), UP (35 per cent) and Kerala (27%). At the other extremes are Himachal Pradesh, Haryana and Madhya Pradesh where the enterprises are the least subcontracted (less than 10 percent) (See Appendix 11.4).

11.76 As regards sectoral pattern of subcontracting, it varies widely across industry groups. However, only three

industry groups (tobacco products, textiles and wearing apparel) account for more than 70 percent of total subcontracting units.

Benefits of Subcontracting

11.77 The two most obvious benefits that accrue to such enterprises are the availability of raw material and specification of product design from the master units. In 2000–01, nearly 91.0 per cent and 84.0 per cent of rural and urban subcontracting units are getting raw material from the contractors (See Appendix 11.5). Similarly, 92.0 per cent and 94.0 per cent of rural and urban subcontracting units respectively get product specification and design from the contractor. Provisioning of ‘improved equipment’ by the parent company does not seem to be a common practice; the vendor has to work with their own machinery and equipment which, in most cases, is reflective of an outmoded technology. In 2005–06, nearly 16.0 per cent of rural and 14.0 per cent of urban subcontracting units get equipments and machineries from the contractors. Thus many of these enterprises must be operating under job work system. Further, the nature of work might be highly labour intensive. In terms of net earnings, the tiny rural enterprises, largely run by traditional and family-trained craftsmen or artisans, end up as mere ‘wage earners’. In sum, the type of subcontracting described above is a living testimony of the exploitation of the home-based rural enterprises by the master enterprise or the contractor, through contrived trade devices. The concrete technological or pecuniary gains do not extend beyond a handful of the rural enterprises. However, rural-urban differences do not come up significantly, so far as the supplies of raw material, product design and capital equipments are concerned.

11.78 A field-based study commissioned by the NCEUS and conducted by the Institute for Studies in Industrial Development (ISID) in the National Capital Region, based on a survey of 60 small and micro enterprises that are actively engaged in subcontracting with larger enterprises (Pais 2008), reveals important insights about the nature and benefits of subcontracting.

Most of the surveyed enterprises undertook subcontracting activities to optimize the capacity utilization. Some of the entrepreneurs/owners had prior market contacts either through working with large firms or otherwise, which motivated them to start subcontracting activities. Majority of subcontracting units had two or more buyers. On the average, a subcontracting unit had six buyers. These units were producing, on the average, 23 items and products. Nearly 60 per cent of total output was supplied to one important buyer firm. A large number of the surveyed enterprises reported getting repeated/regular orders, with bidding and quotation being the important mechanism for price fixation and therefore there was competitive relationship between the vendors and subcontractors. The survey also examined the nature of linkages between the firms. While the marketing linkage, which is assured off-take of the product, was the most important linkage, this resulted in technological linkage through provision of product specification and design. Some of them also got the advantage of getting tools and visits by technical experts and assistance in quality control.

Difficulties of Subcontracting

11.79 What the Commission has reported under ‘benefits’ need to be interpreted cautiously in view of the dependent relationship of the micro enterprises with the larger ones. Besides there are clear cases of a number of difficulties faced by the micro enterprises in their subcontracting relationship. For example, a study conducted in 2008 (see Sahu 2005) found that more than 93.0 per cent of rural and more than 82.0 per cent of the urban units report delayed payments by the parent company. This practice is true although legislation (Interest on Delayed Payments to Small Scale and Ancillary Industrial Undertakings Act) to ensure prompt payment of bills to micro and small enterprises and/or to impose penal interest for delayed payment was also enacted⁴. The problems of undue price-cutting, as also an unjustified termination of the contract were also reported. The study revealed that a fairly high percentage of rural subcontracting enterprises (22.0 per cent against

⁴ In order to secure timely payments to SSI units for supplies made by them to large industrial units, the Interest on Delayed Payments to Small Scale and Ancillary Industrial Undertakings Act was suitably amended. It was now compulsory for payments to SSI units to be made within 120 days after which penal interest would be imposed.

only 9.0 per cent for their urban counterparts) complain of 'stringent quality standards'. In a sense, it reflects their inferior standing in terms of quality consciousness which gets rectified through contract-production regimes, where exposure to competition forces certain quality standards on them.

11.80 The subcontracting units also face the problems of uncertainty. In case of rejection, the small firms end up with practically no option but to dispose off their products. Given the unequal bargaining strength of small firms, the risk sharing is also uneven. So any market shock affects the subcontracting units first.

11.81 The study commissioned by the NCEUS, mentioned earlier, also revealed some of the major constraints faced by the subcontracting units. First, the most important problem faced by the subcontracting units was considerable delays in payments, beyond terms of contract. Although there is legal remedy under Delayed Payment Act, the sense of insecurity of contract prevents small industries from legal action for recovery of their dues. Second, the rate of rejection of various items produced by subcontracting unit was very high. The survey indicated that products were rejected mostly due to their low quality. Third, linkages such as financial and supply of raw material were rare. The level of financial assistance largely depends on the cordial relationship between the buyer firms and the subcontractors. Fourth, the buyer firms did not bother to ensure whether the subcontracting firms were operating with minimum working conditions or complied with any regulation related to working and employment conditions. Unfortunately there was no binding contractual requirement from the buyer firms to operate with minimum working conditions. In the survey, besides the problem of delayed payments, many subcontracting firms reported the problem of shortage of power and poor quality of other infrastructural facilities. The cumbersome paper work in tax filing was also reported to be an important problem for all the respondent enterprises.

Constraints on Micro Enterprises: A Summing Up

11.82 The analysis of constraints faced by micro enterprises clearly shows the following:

11.83 Depending on the kind of enterprise that is being referred to, it is essential to distinguish between livelihood and growth constraints. At the crux of the alleviation of livelihood constraints lies the issue of ensuring minimum guaranteed remuneration and income and social security support either at the level of the enterprise or at the level of the workers.

11.84 Growth constraints to micro enterprise development are interlinked, determined by structures of production on the one hand and the paucity of sustained promotional efforts on the other. The solutions to the constraints to growth faced by enterprises have to address the issue of these inter linkages between the constraints as well as the varieties of relationships that micro enterprises are enmeshed in.

11.85 As regards difficulties of subcontracting, the small units for the most part depend on a few large purchasers. They find it difficult to follow the contractor's quality and reliability requirements. They have also problems with the introduction of innovations and technological up gradation due to lack of skilled workforce and capital. Unequal bargaining power, poor infrastructure and uncertain market risks further accentuate the problems of subcontracted small units.

Policy Implications

11.86 Despite a myriad of problems and challenges, the Commission wants to draw the attention of policy makers that micro enterprises play an important role in India's economy, both in terms of employment creation and economic growth. However, they face many constraints and challenges. Micro enterprises are predominantly own account enterprises, mostly either self-employed or single-own account enterprises. The levels of productivity in micro enterprises are very low. Therefore, it seems that the own account workers take refuge in this enterprise for want of alternative remunerative employment.

11.87 Investment in fixed assets in the micro enterprise sector is seen to be positively related to productivity. Therefore, steps need to be taken to boost levels of investment in fixed assets. The differences in productivity across size classes of micro enterprises point to a clear

segmentation among enterprises. This would in turn require tailor made policies suited for each size class. Thus, on the one hand we need policies and programmes for the own account enterprises and workers that relate to their survival strategies and should be in the direction of providing livelihood alternatives (such as social security, public employment, skill formation and access to credit). On the other hand, programmes such as entrepreneurship development should target the larger-sized enterprises where issues of marketing, fixed assets, and access to raw materials, credit and technology dominate which are discussed in some detail in the subsequent chapters in this Report.

11.88 There are large inter-state variation and variation between rural and urban areas. The extremely low levels of fixed assets in rural areas in some backward states and consequent low levels of labour productivity need to be addressed through policies targeting such areas. Micro enterprises engaged in services have come to play a bigger role in recent years. While the past policy regime was largely aimed at the manufacturing sector, efforts need to be made to suitably modify them for the benefit of service sector as well.

11.89 Certain groups of entrepreneurs face special constraints than others. Within the informal sector, sectors/industries that consist of women entrepreneurs or those who belong to socially disadvantaged groups get locked into a low productivity-low income vicious cycle. Therefore, policies and programmes that promote and protect such entrepreneurs through access to credit, cheap inputs and market, skill development and vocational training are also needed to encourage further micro enterprise development.

11.90 It is clear from this chapter that while the overall extent of subcontracting in the micro enterprise sector is low, it might be an increasing phenomenon over time. The subcontracting arrangement is concentrated in three industrial categories, but it is growing in a wide range of industrial categories. In the emerging industrial scenario in India, under the changing economic regime, competition will assume a prime place and accordingly, there might be increasing pressure on the industrial firms to reduce costs to withstand the domestic as well as international competition. Subcontracting offers significant scope for cost reduction and this might increase the incidence of sub-contracting among micro enterprises. Before suggesting, as is often done, that this form of decentralized production might be beneficial in unequivocal terms, some of the disadvantages that the Commission have highlighted here have to be recognized and addressed. The motivation to such decentralization, namely cost cutting without investing in productivity raising devices, which amounts to labour cost cutting should alone make this suspect from the workers, point of view.

11.91 Realizing the importance of micro enterprises, the Indian government has made a commitment to support the growth of the micro enterprise sector, but more should be considered given their overwhelming share in employment. Creating a level-playing field for these enterprises through a strategy of 'levelling up' that would warrant a more pro-active promotional policies and programmes can not only lead to higher growth and generation of gainful employment but a kind of growth that would be more inclusive and hence capable of increasing the welfare of a larger share of people.

Appendix 11.1: Distribution of Unorganised Manufacturing Enterprises by Industry

Industry Group	Rural			Urban			Rural + Urban		
	1994-95	2000-01	2005-06	1994-95	2000-01	2005-06	1994-95	2000-01	2005-06
Mfg. of food products and beverages	22.3	19.8	16.9	15.8	12.9	10.7	20.8	17.7	15.1
Mfg. of tobacco products	10.2	13.8	19.5	8.7	9.1	9.9	9.9	12.4	16.8
Mfg. of textiles	18.2	14.1	14.5	16.4	13.9	15.8	17.8	14.0	14.9
Mfg. of wearing apparel	0.3	14.1	16.2	1.8	22.6	26.1	0.7	16.6	19.0
Tanning and dressing of leather	1.3	0.8	0.3	2.9	1.6	2.1	1.7	1.0	0.8
Mfg. of wood and of products	21.9	20.8	15.9	10.9	6.9	4.5	19.3	16.7	12.5
Mfg. of other non-metallic mineral products	7.7	5.6	4.3	3.5	2.5	2.1	6.7	4.7	3.8
Mfg. of fabricated metal products	2.6	3.1	3.1	6.1	5.3	5.1	3.4	3.8	3.8
Mfg. of machinery and equipment n.e.c.	2.5	0.7	0.6	3.3	1.6	2.1	2.7	1.0	1.0
Mfg. of furniture; manufacturing n.e.c.	11.2	5.2	4.4	19.4	14.2	12.4	13.2	7.8	6.7

Source: NSSO 51st, 56th and 62nd Round Survey on Unorganised Manufacturing. Computed.

Appendix 11.2: Distribution of Workers in Unorganised Manufacturing Enterprises by Industry

Industry Group	Rural			Urban			Rural + Urban		
	1994-95	2000-01	2005-06	1994-95	2000-01	2005-06	1994-95	2000-01	2005-06
Mfg. of food products and beverages	23.1	22.2	21.2	14.6	13.5	12.3	20.6	19.2	17.4
Mfg. of tobacco products	9.1	11.7	14.6	6.2	5.7	6.0	8.3	9.6	11.5
Mfg. of textiles	21.0	16.3	16.1	18.8	16.1	19.7	20.3	16.2	17.4
Mfg. of wearing apparel	0.4	10.4	11.0	2.9	17.8	18.1	1.1	12.9	13.5
Tanning and dressing of leather	1.0	0.6	0.4	3.2	1.9	2.9	1.6	1.1	1.3
Mfg. of wood and of products	18.9	20.2	15.0	9.7	6.2	4.1	16.3	15.4	11.1
Mfg. of other non-metallic mineral products	9.2	7.8	8.4	3.8	3.2	2.9	7.7	6.2	6.4
Mfg. of fabricated metal products	2.5	3.0	3.0	7.8	7.3	7.3	4.1	4.5	4.6
Mfg. of machinery and equipment n.e.c.	1.9	0.7	0.5	4.1	2.5	3.5	2.5	1.3	1.6
Mfg. of furniture; manufacturing n.e.c.	10.9	5.0	4.8	15.4	13.6	13.7	12.2	8.0	8.0

Source: *ibid.*

Appendix 11.3: Percentage share of Enterprises in selected Manufacturing Industries by State and Location, 2005-06

State	Rural	Urban	State	Rural	Urban
Mfg of Textiles			Mfg. of food products and beverages		
Uttar Pradesh	25	22.1	Uttar Pradesh	17.4	13.9
West Bengal	26.3	16	West Bengal	15.3	7.4
Tamil Nadu	8.6	13.5	Orissa	12.3	3.2
Andhra Pradesh	6.5	9.1	Bihar	8.9	5.1
Assam	5.8	0.6	Maharashtra	5.5	13.1
Mfg of Wearing Apparel			Andhra Pradesh	4.9	7.1
Andhra Pradesh	14.7	11.9	Rajasthan	4.1	6.3
Maharashtra	10.2	14.6	Karnataka	4.1	5
Uttar Pradesh	10.9	10.3	Assam	5.1	1.1
Tamil Nadu	7.3	10.6	Mfg. of wood and of products		
West Bengal	6.7	10.6	West Bengal	18.7	3.8
Karnataka	8.4	5.7	Orissa	16.3	3.1
Kerala	7.7	3.5	Uttar Pradesh	14.9	14.8
Gujarat	4.6	8.1	Andhra Pradesh	8.1	12.2
Rajasthan	5.7	3.6	Bihar	6	7.7
Mfg. of tobacco					
West Bengal	29	6			
Andhra Pradesh	12.8	16			
Madhya Pradesh	10.9	21.5			
Karnataka	9.6	17			
Jharkhand	10	0.7			
Tamil Nadu	5.6	21.3			
Uttar Pradesh	8.2	8			
Bihar	6.1	2.2			

Source: NSSO 62nd Round Survey on Unorganised Manufacturing. Computed.

Appendix 11.4: Proportion of Enterprises Working under Subcontracting Arrangement in Indian States: 2000-01 and 2005-06

Major States	2000-01			2005-06		
	Rural	Urban	Combined	Rural	Urban	Combined
	1	2	3	4	6	7 8
Andhra Pradesh	19.3	23.7	20.4	20.0	28.6	22.5
Assam	7.1	19.3	8.8	11.6	17.8	12.2
Bihar	9.8	20.8	11.5	17.4	19.7	17.8
Gujarat	15.7	32.5	24.9	11.4	35.4	24.4
Haryana	2.3	11.1	6.5	3.0	11.5	7.1
Himachal Pradesh	6.2	6.3	6.2	3.1	7.1	3.3
Jammu & Kashmir	58.0	27.1	47.8	29.2	10.2	25.6
Karnataka	44.9	21.2	37.0	42.1	31.9	38.9
Kerala	26.5	19.0	25.2	24.5	33.5	26.8
Madhya Pradesh	38.9	46.4	41.0	3.9	21.4	9.8
Maharashtra	13.5	31.5	21.8	13.7	26.0	19.9
Orissa	4.0	15.1	4.7	17.5	14.0	17.2
Punjab	26.2	23.3	24.9	18.0	27.8	22.8
Rajasthan	6.7	23.3	12.9	8.0	24.6	14.2
Tamil Nadu	44.3	39.4	42.1	55.5	48.1	52.3
Uttar Pradesh	24.9	41.9	29.7	35.6	34.6	35.3
West Bengal	52.0	73.8	57.1	51.8	65.1	54.3
All-India	27.5	37.9	30.6	30.4	34.7	31.7

Source: NSSO 51st, 56th and 62nd Round Survey on Unorganised Manufacturing. Computed.

Appendix 11.5: Proportion of Enterprises Operating Under Subcontracting Arrangement by Source of Equipment, Raw Material and Design by Type of Enterprises and Location: 2000-01/2005-06 (percent)

Type of Unit and Locale	Units working solely for contractors/ master units from the contractors		Units Getting Equipments contractors		Units Getting Raw Material from the		Design Specified by Contractors	
	2000-01	2005-06	2000-01	2005-06	2000-01	2005-06	2000-01	2005-06
				Rural				
OAMEs	81.9	88.8	6.7	16.1	91.7	90.7	92.5	94.6
NDMEs	62.1	66.4	7.8	6.1	72.5	73.9	86.3	95.1
DMEs	77.2	79.4	7.3	4.7	77.3	80.9	84.1	96.6
Total	81.0	87.5	6.7	15.5	90.7	89.8	92.1	94.6
Urban								
OAMEs	81.4	84.6	9.3	15.7	88.0	83.9	94.3	95.7
NDMEs	60.6	61.9	5.4	9.4	73.4	68.3	94.4	92.2
DMEs	75.7	67.0	7.3	10.6	72.2	69.2	95.3	93.0
Total	77.0	79.3	8.4	14.2	83.9	80.0	94.4	94.9
Total								
OAMEs	81.8	87.4	7.0	16.0	90.6	88.9	93.1	94.9
NDMEs	61.0	63.4	6.0	8.2	73.2	70.3	92.2	93.2
DMEs	76.1	70.1	7.3	9.0	73.4	72.2	92.6	93.9
Total	79.6	84.9	7.3	15.1	88.2	86.7	93.0	94.7

Source: *ibid.*

12

Access to Credit

Introduction

12.1 Access to capital and credit is critical for the development of a successful enterprise whether small or big. Both fixed and working capital are the key elements to start, operate and expand a business. However, we find that lack of capital is the greatest constraint especially to unorganized sector enterprise development in India largely because of the limited access to sources of credit at reasonable rates of interest. Empirical evidence suggests that smaller the size of the enterprise the higher the cost of capital. The micro enterprise sector in this country is almost excluded from having access to credit from institutional sources.

12.2 This Commission had gone into great detail on this issue of access to finance by the informal sector enterprises and submitted a set of recommendations in its *Reports on Access to Financing in the Unorganised Sector and Creation of a National Fund for the Unorganised Sector* (NCEUS 2007b). The recommendations comprised of (a) revisions to Priority Sector Lending Policy, (b) penalty to banks not adhering to Priority Sector Guidelines, (c) strengthening delivery points, (d) strengthening micro financing, (e) developing innovative financing instruments, (f) rationalizing the cost of lending, (g)

empowering entrepreneurs, and (h) a set of developmental support measures including better coordination among development agencies, improving productivity, extending credit plus services and providing livelihood finance, and strengthening self-employment schemes. For purposes of refinancing a development agency called National Fund for the Unorganised Sector (NAFUS) has been recommended which will undertake, apart from refinancing, other developmental functions as well.

12.3 The Commission would like to underline the crucial role of access to credit to the unorganized sector enterprises by not only recapturing the main findings and recommendations in the earlier report but also highlight the plight of this sector in the ongoing liquidity crisis in the economy. While doing so, this chapter also incorporates the additional information available since the submission of the earlier report. But more importantly, we highlight here the exclusionary nature of banking and credit policies in the context of the larger liberalization of the economy on the non-farm unorganised enterprise sector that contributes, according to this Commission, 32 percent of the country's GDP but gets hardly 3 percent of the net bank credit.

Size and Characteristics of Unorganised Enterprises

12.4 As we saw in the earlier chapter, the NSS 55th Round reported an estimated 44.1 million non-farm unorganized enterprises in 1999-2000. However, the Economic Census of 2005 reported a total count of 41.83 million enterprises that comes under this Commission's definition of informal/unorganised enterprises¹. The earlier estimate of the Commission showed that 104 million persons are employed in this sector contributing about 31 per cent of the GDP. Of these enterprises, 12.6 million are in the form of modern micro enterprises producing items like leather, chemical, electrical, electronics, garments, hosiery, glass and ceramics, processed food products, wood products, metal, rubber, plastic goods, etc. About 7.5 million, 2.8 million and 0.6 million enterprises have been set up under credit-linked Government Sponsored Schemes of Swarnjayanti Gram Swarojgar Yojana (SGSY), Prime Minister Rojgar Yojana (PMRY) and Swarnjayanti Sahari Swarojgar Yojana (SJSSY) respectively. A large number of micro enterprises are engaged in traditional activities. It is estimated that about 6.5 million enterprises are in handloom sector and 0.5 million in Khadi and village industries sector. About 8.2 million enterprises are engaged in agro-processing activities like dairy, poultry, fishery, etc. and the remaining 19.3 million cover handicrafts, coir, sericulture, wool, retail trade, small business, etc.

12.5 Unorganised non-farm enterprises, as defined by the Commission, exist principally in the form of micro-enterprises. As per the Micro, Small and Medium Enterprise Development Act of 2006, micro enterprises are defined as those whose investment in

plant and machinery is below Rs. 25 lakh. There is a 98 percent convergence of this definition and the definition of the Commission i.e. private unincorporated enterprises employing less than ten workers. The lower segment of micro-enterprises consists of enterprises which, in the case of manufacturing have an investment of Rs. 5 lakh in plant and machinery, and 2 lakh in the case of services. The Third Census of Small Scale Industries (2001-02) (GOI 2004) revealed that over 99 per cent of SSIs exist in the form of micro (tiny) enterprises whose average per unit fixed investment was a meager Rs.1.47 lakh. Further, over 94 per cent of all small enterprises are unorganised sector enterprises as per the NCEUS definition and also belong to the lower segment of micro-enterprises i.e. with an investment below 5 lakh.

Access to Credit to Micro and Small Enterprises: The Present Scenario

12.6 The present scenario vis-à-vis the availability of credit to various sectors of economy is very dismal even for the combined group of small and micro enterprises. The overall availability of credit to these enterprises as percentage of net bank credit (NBC) of the Scheduled Commercial Banks (SCB) has declined from 15.5 per cent in 1996-97 to 6.6 per cent in 2007-08. Banks' credit to micro enterprises (investment up to Rs 25 lakh in plant and machinery) declined from 4.2 percent in 2002-03 to 2.8 per cent in 2007-08. The lower segment of micro enterprises (with investment up to Rs 5 lakh in plant and machinery) has experienced a decline from 2.2 per cent to 1.6 per cent in the same period. The present status of credit to Small and Micro enterprises could be seen through Tables 12.1 and 12.2.

1 In our earlier report (NCEUS 2007b), we projected a total of 58 million non-farm unorganised or informal enterprises by March 2007 by applying the growth rate of 4.0 percent per annum (between the 1998 and 2005 Economic Census figures) to the NSS estimate of 44.1 million.

Table: 12.1. Flow of Credit from Commercial Banks to SSI Sector

Year	Net Bank Credit (Rs crore)	Annual Growth (%)	Credit to SSI (Rs crore)	Annual Growth (%)	SSI credit as percentage of NBC
1994-95	192424		29175		15.2
1995-96	228198	18.6	34246	17.4	15.0
1996-97	245999	7.8	38196	11.5	15.5
1997-98	297265	20.8	45771	19.8	15.4
1998-99	339477	14.2	51679	12.9	15.2
1999-00	398205	17.3	57035	10.4	14.3
2000-01	467206	17.3	60141	5.4	12.9
2001-02	535063	14.5	67107	11.6	12.5
2002-03	668576	25.0	64707	-3.6	9.7
2003-04	664244	-0.6	71209	10.0	10.7
2004-05	877708	32.1	76592	7.6	8.7
2005-06	1266689	44.3	101285	32.2	8.0
2006-07	1763709	39.2	127323	25.7	7.2
2007-08	2361913	39.2	155804	22.0	6.6

Source : Compiled from Report on Trend and Progress of Banking in India, RBI (1995), RBI (2005) by Internal Working Group of RBI (RBI 2008) and Monthly Economic Report, Ministry of Finance, (GOI 2008) for 2007-08 data on Net Bank Credit.

12.7 The growth in credit to the small scale industry (SSI) that includes the micro enterprises or informal sector enterprises has not kept pace with the growth in NBC. While NBC during 1994-08 registered an annual growth rate of 22.3 percent the growth in SSI credit was only 13.8 per cent per annum. A greater pace of decline occurred during 2002 to 2008 with the SST credit growth registering 15.1 percent per annum compared to 28.1 percent for net bank credit. Such a trend resulted in a declining share of NBC going to the SSI. In 2007-08 the share of SSI credit was only 6.6 percent of NBC compared to 15.2 percent in 1994-95.

12.8 Some improvement in growth rate during last 3 years i.e. 2005-06 to 2007-08 could be attributed to the SME Policy Package of 2005 which directed the Public Sector Banks to double credit to SME in next five years. However, the Commission has reason to believe that much of this increase could be due to the definitional change in 2006 with regard to small scale industry i.e. enterprise investment in plant and machinery exceeding Rs.25 lakhs and up to Rs 5 crore instead of the earlier ceiling of Rs.1 crore.

Table 12.2: Status of Scheduled Commercial Bank Credit to Micro Enterprises (Rs Crore)

Year	SSI credit	ME investment up to Rs 5 lakh	% to total NBC	ME investment Rs 5 to 25 lakh	% to total NBC
(1)	(2)	(3)	(4)	(5)	(6)
2002-03	64,707	15,080	2.2	13,896	2.0 (4.2)
2003-04	71,209	13,667	2.0	14,870	2.2 (4.2)
2004-05	76,592,	14,982	1.6	14,048	1.6 (3.2)
2005-06	10,12,85	17,308	1.4	17,672	1.4 (2.8)
2006-07	12,73,23	21,768	1.2	23,550	1.3 (2.5)
2007-08	155804	37,924*	1.6	28,778*	1.2 (1.8)

Sources: RBI-Internal Working Group Report (RBI 2008) and Monthly Economic Report, Ministry of Finance (GOI 2008), Ministry of MSME. *Relates to Public Sector and Private Sector Banks. ME stands for micro enterprise and SSI stands for Small Scale Industries. Figures in brackets indicate the share of credit accruing to the whole micro enterprises i.e. columns 3 and 6.

12.9 A closer look at the credit flowing to the micro enterprise sector gives an even more dismal picture. It may be clarified that the above data on credit flow do not cover the entire micro enterprise sector but only those engaged in manufacturing, and some selected services such as repairing. This data reveals a steady decline in the flow of credit to micro enterprises of both the categories i.e. those with investment in plant and machinery up to Rs 5 lakh and of those with investment in plant and machinery between Rs 5 lakh and Rs 25 lakh. For both the categories together the share of credit in NBC has declined from 4.2 per cent in 2002-03 and 2003-04 to 2.5 per cent in 2006-07 and was 2.8 per cent in 2007-08. Individually, the first segment of micro enterprises has witnessed a much sharper fall from 2.2 per cent in 2002-03 to 1.2 per cent in 2006-07. In 2007-08, this has however shown improvement to 1.6 per cent of the NBC. This increase in 2007-08 could also be attributed to inclusion of additional components like credit to small road and water transport operators, small business, professional and self-employed persons and all other service enterprises within the ambit of small and micro (service) enterprise under the revised RBI Priority Sector Guidelines announced on 30th April, 2007.

12.10 Internal Working Group of RBI, constituted to examine the recommendations of the Commission on financing of unorganised enterprises, in its report (RBI 2008) further confirms that the quota of 60 per cent of small enterprise credit has not been achieved as could be seen from Table 12.3.

12.11 In its Report of the Internal Working Group, the RBI admitted that credit to micro enterprises (investment of up to Rs 25 lakh in plant and machinery) has declined from 3.7 per cent of Gross Bank Credit in 2002-03 to 2.5 per cent in 2006-07. It also reveals that against the target of 60 per cent, credit advanced to micro enterprises was only 35.6 per cent in 2006-07 as shown in Table 12.3.

Micro Credit as a Palliative

12.12 Apart from the direct credit from commercial banks, some indirect credit in the form of micro credit is made available to informal or unorganised sector enterprises. Micro credit has been touted as an important source of credit to people living below the poverty line for their livelihood security through self-employment initiatives. There are mainly two sources of micro credit,

Table - 12.3: Scheduled Commercial Banks' Credit to Micro Enterprises (Rs. Crore)

Segment of Credit	Year				
	2002-03	2003-04	2004-05	2005-06	2006-07
1. Gross Bank Credit	7,78,043	9,02,026	10,45,954	14,43,920	18,41,878
2. Credit to SSI	64,707	71,209	83,498	1,01,285	1,27,323
3. Credit to Micro Enterprises with Investment P&M up to Rs. 5 lakh	15,080	13,677	14,482	17,308	21,768
4. 3 as percentage of SSI credit	23.3	19.2	17.34	17.10	17.10
5. Credit to Micro Enterprises with investment in P&M between Rs. 5 lakh and Rs. 25 Lakh	13,896	14,870	14,048	17,672	23,550
6. 5 as percentage of SSI credit	21.4	20.9	16.82	17.4	18.5
7. Credit to MICRO Enterprises with investment in P&M up to Rs. 25 lakh (Rows 3+5)	28,976	28,547	28,530	34,980	45,318
8. 7 as percentage of SSI credit	44.8	40.1	34.16	34.50	35.60
9. 7 as percentage of GBC credit	3.7	3.1	2.7	2.4	2.5

Source: Compiled from Report on Trend and Progress of Banking in India, RBI (1995), RBI (2005), reproduced from RBI IWG Report (RBI 2008).

one under SHG-Bank Linkage Programme and the other through Micro Finance Institutions. While over 84 per cent of micro credit is through SHG-bank linkage, remaining 15 to 16 per cent of micro credit is routed through the Micro Finance Institutions (MFIs). It must be pointed out that the SHG-bank linkage programme has continued to be the main micro-finance mode by which the formal banking system reaches the micro entrepreneurs (including farmers). Launched in 1992 as a pilot project, it has since proved its efficacy as a mainstream programme for banking by the poor who mainly comprise the marginal farmers, landless labourers, artisans and craftsmen and others engaged in small business like hawking and vending in rural areas. The main advantages of the programme are timely repayment of loans to banks, reduction in transaction costs both to the poor and the banks, door step 'saving and credit facility' for the poor, exploitation of the untapped business potential in rural areas and empowerment of women since the SHGs set up so far have predominantly women as members. Around 498 banks (50 commercial banks, 96 amalgamated RRBs and 352 cooperative Banks) are actively participating in the programme. As on December 31, 2007, bank loan of Rs. 20,114 crore was availed by 30.51 lakh SHGs as could be seen in Table 12.4.

12.13 As of 2007-8, the average bank loan availed of per SHG works out to be Rs. 65,925 and, given an average membership of 15 to 20 per SHG, per member/family loan is only around Rs. 40000, which is inadequate even for the lowest rung of micro enterprise or what is called Own Account Enterprise. What this conveys is that micro

credit caters principally to consumption smoothening of the working poor who perhaps experience a greater degree of vulnerability than others. The outreach of the programme has enabled an estimated 427 lakh poor households to gain access to micro finance from the formal banking system. Reliable data on supply of micro credit through MFIs are not available. The Raghuram Rajan Committee (Planning commission 2009) in its report on Financial Sector Reforms (2008) has however observed that an estimated Rs. 3500 crores flowed as micro credit from MFIs in 2006-07 and that 80 per cent of which was provided by less than 20 large MFIs which are registered as NBFCs/Section 25 Companies. The bulk of micro finance activity was concentrated in South India, though this is beginning, albeit gradually, to change. About 84 percent of around 42 million informal sector enterprises in 2005 (Economic Census) are Own Account Enterprises. With a credit requirement of at least Rs.24 thousand per year (i.e. Rs.2000 per month since these OAEs mainly need working capital), the annual requirement for microcredit works to around Rs.84,000 crores. Some associations of MFIs have, however, assessed the credit need at Rs 50,000 crore in 1999-2000 (e.g. SADHAN). Against these estimated figures of requirement, the present supply is just over ten percent.

12.14 Apart from the specific policy initiatives to improve the flow of credit to non-farm unorganized sector mentioned above, RBI has constituted various committees in the 1990s and beyond, and a number of recommendations of these committees have been translated into policy action. The details of these

Table: 12.4. Progress under SHG-Bank Linkage

Year	No. of SHGs (cumulative)	Percentage Increase in SHGs Over Previous Year	Amount of Bank Loan (Rs. crore) (cumulative)	Percentage Increase in Loans Over Previous Year
2002 - 03	7,17,360	-	2,040	-
2003 -04	10,79,091	52.1	3,904 (1,864)	95.0
2004 -05	16,18,456	51.4	6,898 (2,994)	74.3
2005 -06	2,238,565	38.3	11,398 (4,500)	63.7
2006 -07	29,87,441	33.4	18,041 (6,643)	59.3
2007 -08*	30,51,041	02.0	20,114 (2,073)	11.6

Note : Figures in brackets show amount of bank loan

Source: Economic Survey 2007-08. *As on December 31, 2007

recommendations and policy actions have been provided in the Commission's Report (NCEUS, 2007b). In addition, various government schemes to facilitate flow of credit to non-farm unorganized enterprises (NFUEs) have also been discussed in this report. Despite the many committees and interventions by the Government, no perceptible improvement has taken place with regard to the credit flow to the SSI sector in general and NFUEs in particular. This is reflected by the decline in the credit flow to these segments.

12.15 Such a scenario has come to exist despite the existence of a vast network of financial institutions in the country. Of course, the policy regime has not been one of concerted and direct intervention to ensure that the vast mass of micro enterprises as well as small enterprises receive, at the least, a share of the total credit in proportion to their contribution to national income. Instead it has been largely one of 'guidelines', floating a number of schemes to provide some credit guarantee and to earmark small amounts as specific funds. We briefly discuss these issues below.

Institutional and Policy Support for Credit

Multi-level Institutional structure for credit to non-farm sector

12.16 India has a formal banking network of around 77773 banks/bank branches spread all over the country although an increasing trend in banking density in and around urban areas has been taking place since the early nineties. A large number of institutions are engaged in the task of credit dispensation to the farm and non-farm enterprises. The overall regulation of the monetary policy, which includes credits to SSI and other non-farm enterprises, is in the hands of the Reserve Bank of India (RBI).

12.17 *Commercial Banks:* The commercial banks have been playing an important role in financing the working capital requirements of agriculture and small scale enterprise sector. Besides providing short-term and long-term assistance to small enterprises, these banks also support non-farm unorganised enterprises, through loans for (i) industrial estates, (ii) small road and water transport operators, (iii) retail trade, (iv) small business, (v) housing loans, (vi) advances to self-help groups etc. under their

priority sector lending programme. Currently about 80 percent of the commercial bank's credit to the SSI sector is in the form of working capital and the remaining 20 percent for term loans. Under the RBI guidelines banks have started composite loaning (long-term loans) to the SSI with the current limit being Rs. 1 crore.

12.18 *State Financial Corporations (SFCs):* The mandate of the SFCs is to promote regional growth in the country through the development of SMEs by grants or loans and participation in their equity. The eighteen SFCs across the country provide financial assistance by way of term loans. The lending is in the format of loans and debentures and they also operate schemes of IDBI/SIDBI in addition to extending working capital loans under the composite loan scheme. Many of the SFCs have failed to achieve these objectives and some of them are now almost defunct. Much of the failure could be attributed to the absence of managerial autonomy, professional management and a host of other problems related to the functioning of state-level public sector institutions.

12.19 *Regional Rural Banks (RRBs):* These institutions were created jointly by a group of public sector commercial banks, to promote agriculture, trade, commerce and industry in rural areas and thereby to improve the rural economy. They also support micro/tiny, and artisan-based units and village industries located in the rural areas. Most of the NABARD's schemes for non-farm unorganized enterprises are operated through RRBs. These banks function like local banks and there is a strong case to strengthen them and increase their number in many parts of the country.

12.20 *Cooperative Banks:* The cooperative banks finance, apart from agriculture and related primary sector activities handlooms, powerlooms, coir and village industries as many of them function on a cooperative basis. NABARD uses this channel for extending credits to farm and non-farm enterprises. More than one lakh Primary Agricultural Cooperatives finance the agriculture and agriculture-related industries. The Urban Cooperative Banks has 1853 branches which play an important role in meeting the working capital needs of the cottage and tiny industries.

12.21 *Small Industries Development Bank of India (SIDBI)*: This was established in April 1990 as the apex refinance bank and the principal development financial institution for the promotion, financing and development of the small industries sector and to coordinate the functions of other institutions engaged in similar activities. It has four regional branches and 65 branches for the channeling of direct and indirect credit. As regards indirect assistance, SIDBI provides refinance to and discounts bills of primary lending institutions with the provision of the following assistance: marketing of SSI products, setting up of new ventures, availability of working capital, expansion, modernization, human resource development, and diversification of existing units for all activities. The direct assistance comprised of loans for new ventures, diversification, technology upgradation, industrialization, expansion of well-run SMEs, foreign currency loans for import of equipment to export-oriented SMEs, micro credit to Micro Finance Institutions, and venture capital assistance to innovative entrepreneurs. The Commission's examination of the functioning of SIDBI indicate that it mostly, if not only, caters to the needs of the 'big' among the small enterprises usually those with an investment of Rs.50 lakhs and above. It may be reiterated here that the universe of micro enterprises that we are concerned with come under the definition of Rs.25 lakh in investment, but in fact 94 percent of them do not have an investment exceeding Rs.5 lakh. It is this ground reality that led to our recommendation for the setting up of an exclusive development finance agency called NAFUS for the non-farm micro enterprise sector.

12.22 *National Bank for Agriculture and Rural Development (NABARD)*: Established in 1982, the main objective of NABARD is to provide assistance to agriculture and agriculture-related activities. It also undertakes promotional programmes for rural development such as a Rural Entrepreneurship Development Programme, training-cum-production programmes and action plan for rural industrialization. A part of its activities are also addressed to the non-farm sector. Apart from its SHG-Bank Linkage Programme, very little of refinancing from NABARD goes to the micro enterprise sector.

Sources of institutional credit to non-farm sector

12.23 There are various modes of institutional financial assistance to the micro enterprises. However, as we have seen earlier, the flow of commercial bank credit has been so negligible. What little credit goes to this sector are by and large through the piggy-backing of government schemes.

12.24 The main attraction of such schemes is the provision for a subsidy on the loan or through margin/equity money. The Central Government has been implementing a number of schemes to encourage the poor people to approach banks for a term loan and a working capital. Two major schemes viz., (a) Prime Minister's Rojgar Yojana (PMRY) and (b) Employment Generation Programme (REGP) for Village Industries by KVIC, both implemented by the Ministry of Micro, Small and Medium Enterprises have now been merged into a single scheme known as the Prime Minister's Employment Generation Programme (PMEGP). The same ministry also implements another scheme called Interest Subsidy Eligibility Certification (ISEC) Scheme for Khadi through KVIC. In addition, there are two other major schemes viz., (a) Swarnjayanti Gram Swarozgar Yojana (SGSY) implemented by the Ministry of Rural Development, and (b) Swarnjayanti Shahari Swarozgar Yojana (SSSY) implemented by the Ministry of Housing & Urban Poverty Alleviation.

12.25 In order to encourage small entrepreneurs to modernize and upgrade technology, the Central Government has been implementing a few schemes of interest subsidy and capital subsidy. Two of these schemes are the following: (a) Interest and/or Capital Subsidy for Technology Upgradation of Textile Units under Ministry of Textiles and (b) Credit-Linked Subsidy Scheme for Technology Upgradation of SSI under Ministry of MSME.

12.26 The ground reality is that many banks do not prefer lending to small enterprises in general and micro enterprises in particular. They cite a number of reasons such as high risk, high transaction costs, higher NPAs, and lack of collaterals. In order to enhance the confidence

level of banks in small lending, the government has devised schemes such as Credit Guarantee Scheme and Credit Rating Schemes for SSIs which are implemented by the Ministry of MSME.

12.27 Another source of credit is through the MFIs that have now made a presence. Their current share in total micro credit is only less than ten percent but, with the enactment of the legislation, their role is expected to increase in the years to come. The MFI model in India is characterized by the diversity of institutional and legal forms. Initially, a number of registered societies and trusts commenced group-based savings and credit based activities, replicating Grameen Bank Model of Bangladesh, on donor funding. In recent years MFIs are increasingly accessing funding from domestic apex financial institutions such as SIDBI, Friends of Women's World Banking (FWWB) and Rastriya Mahila Kosh (RMK). Under the Micro Financial Sector (Development and Regulation) Bill 2007, NABARD has been designated as the regulatory authority for the MFIS. NABARD continues to be a major player in the micro credit field with its SHG-Bank Linkage scheme providing nearly 70 percent of micro credit in the country.

Informal Credit: Role of Money Lenders

12.28 Historically, moneylenders have played a significant role in meeting the credit needs of the rural producers. With stringent laws against money lending and the phenomenal growth of the formal credit delivery system, it was thought that money lenders would soon be out of business. Instead they have been in the business of lending in several disguises. The recent All India Debt and Investment Survey revealed that the share of money lenders in the total dues of rural households rose from 18 percent in 1991 to 30 percent in 2002. Moreover, the interest rates are much higher in non-institutional lending than the institutional lending. For instance, about 40 percent of the lending by moneylenders was at an interest rate of above 30 percent in the rural areas in 2002, showing the exploitative nature of moneylenders. This has led the RBI to consider giving legal status to moneylenders and to make use of the institution in a formal way.

Policy Measures to Promote Credit to Micro and Small Enterprises

12.29 Policies for promoting greater access to credit by micro enterprises are quite a few but still somewhat patchy. They consist of guidelines in the Priority Sector Lending Policy and some schemes for credit guarantee and creation of small funds.

12.30 Under the Priority Sector Lending Policy, credit to the MSEs is part of the priority sector lending by banks since early seventies. For the public and private sector banks 40 per cent of the adjusted net bank credit (ANBC) is earmarked for the priority sector. For the foreign banks however, 32 per cent of ANBC is earmarked for the priority sector, of which 10 per cent is earmarked for the MSE sector. Any shortfall in such lending by the foreign banks has to be deposited in the Small Enterprise Development Fund (SEDF) set up by SIDBI. Some revisions were carried out in April 2007 focusing on the micro and small enterprises the most important of them being (a) inclusion of advances to small enterprises while assessing performance under the overall priority sector target, (b) earmarking 40 per cent of total advances to small enterprises to go to micro enterprises with an investment of up to Rs.5 lakh, and (c) 20 per cent of total advances to small enterprises sector should go to micro enterprises with investment of above Rs 5 lakh and upto Rs 25 lakh.

12.31 In August 2005, the government announced a 'Policy Package for Stepping Up Credit to Small and Medium Enterprises (SMEs) that included a target of 20 per cent year-on-year growth in credit to the SME sector by public sector banks, asking banks to formulate a comprehensive and more liberal policy relating to advances to the SME sector, adopting a cluster based approach for SME financing and reviewing the progress in SME financing by bank boards as well as by the RBI.

12.32 In March 2007, the government announced a package that included (a) providing government grants to SIDBI to augment its Portfolio Risk Fund as well as Risk Capital Fund for extending credit to micro enterprises, (b) increasing the SIDBI branch offices from 56 to 100 in two years, and (c) modification of rules in the Credit Guarantee Fund Trust for Micro and Small

Enterprises by raising the eligible loan limit as well as guarantee cover from 75 to 80 per cent.

Credit Policy in the Current Context: A Micro Enterprise Perspective

12.33 The impact of the global financial crisis that has turned into an economic recession in the developed countries has had its effect on India much sooner than expected. In the first instance it led to a liquidity crisis in the economy. However, the micro enterprise sector has been living in a state of crisis because of almost near exclusion from access to institutional credit. The recent policy measures, however limited, were meant to address this deficiency to some extent. But these have not proved to be of much help to the micro enterprises. Some of the problems faced in the current context are outlined below.

12.34 While the Prime Lending Rate (PLR) has been brought down by the Reserve Bank by a series of monetary policy measures, the banks have not fully passed on the reduction to the customers. Moreover, their record of credit increase in the immediate past has been quite uneven with agriculture and small industries sector still lagging behind other segments. For example, between August 2007 and 2008, credit for credit cards increased by 86.3 per cent, all services sectors by 35.3 per cent, construction by 48.3 per cent, and real estate by 46.3 per cent. However the increase to credit agriculture and allied activities has been 18.5 per cent and for small-scale industries (including micro enterprises) just 9.7 per cent.

12.35 As a result of the policies pursued by the RBI to address the recent crisis of liquidity in the economy, there has been substantial expansion of liquidity of the banks from Rs 34,67,098 crore in March 2007 to Rs 45,28,277 crore in November, 2008 i.e. by around 31 percent. Liquidity in itself will not solve the problem unless there are directives to banks on the end use of credit; in particular, more credit has to flow in favour of the vast informal sector, where an increase in the purchasing power will immediately translate into an increase in aggregate demand that would expand the domestic market. Otherwise, the counter-cyclical measures that the authorities introduce will not serve the end purpose

in view, which is to provide a genuine stimulus to effective demand in the economy.

12.36 RBI followed the policy of non interference with priority sector lending rate as a result of which the small and micro enterprises are charged the same high rate of credit including (the artisan, village and small industries) as those for other loans. Loans up to Rs 2 lakh are available at prime lending rate though banks have discretion to reduce it by 2 percent. However, PLR rate itself is very high ranging between 13-14 per cent to which some additional charges are added by way of administrative costs and operation of the account.

12.37 For many years, the micro and small industries have attracted higher rates than the average rate for the system as whole. For loans above Rs 2 lakh the rate of interest charged is PLR + spread of 3 percent. The PLR was 14 per cent till Oct 2008. Recently banks have reduced the PLR by 1 percent. Thus loans to micro and small enterprises are only available at a minimum of 16 per cent as against a much lower rate (as low as 8 per cent) for the large industries on the ground of their higher credit worthiness. The rate of interest charged from the farm sector is 7 per cent on loans up to Rs 3 lakh. However, a subvention of 2 per cent to the banks is provided through the central budget.

12.38 Similarly it was decided to double SME credit in three years without strengthening the rural bank infrastructure. In fact, the numbers of rural bank branches have declined by more than 5000 from 35360 in 1993 to 30551 in 2007. While the overall credit to these sectors have increased but the actual beneficiaries are not the micro enterprises in the informal sector.

12.39 Priority sector lending policy has tilted in favour of housing (urban belonging to upper middle and high income) and corporates neglecting agriculture, small and micro enterprises, and other small borrowers. The sector targets are 18 percent for agriculture and 10 percent for weaker sections. As per the latest RBI data (RBI 2008) only 15 out of 28 public sector banks and 17 out of 23 private sector banks have not achieved the target for agriculture. Likewise, 15 public sector banks and all the

23 private sector banks have not achieved the target for weaker sections. Based on the RBI data, this Commission finds that the priority sector shortfall in 2007-08 amounts to around Rs.77,541 crore. It may be mentioned that there is no target for small and micro enterprises in the priority sector where the credit from the commercial banks declined from 15 per cent in 1998 to 7 per cent in 2007. Recently, the credit has moved to 10 per cent but this is primarily because of change in definition of SSI from the ceiling of Rs 1 crore of investment in Plant and machinery to Rs 5 crore in October, 2006. With regard to micro enterprises with investment up to Rs 5 lakh, the credit from commercial banks was 2 per cent of NBC in 2006, which according to RBI data itself has declined to 1.2 per cent in 2007. In fact, even this 1.2 per cent of NBC to micro enterprises is piggy backed on credit linked self employment schemes of the government such as PMEGP and SGSY. Thus the informal enterprises have virtually been neglected by the banks.

12.40 While the recent stimulus packages announced by the government included a facility of Rs. 7000 crores for the SIDBI to support incremental lending to micro, small and medium enterprises, no funds have been earmarked for micro enterprises which constitute over 98 per cent of all the enterprises in the country and contribute 31 percent of the output. In the absence of earmarking the funds the financial institutions will be inclined to lend to higher end small enterprises (with an investment of up to Rs.5 crores) and medium enterprises (with an investment of up to Rs 10 crore).

Some Larger Issues

12.41 Before we make our recommendations, the Commission would like to put on record that there is need for re-examining the financial architecture and redesigning it to a tune it to the need to transform the structural weaknesses of the economy, pull the vast informal sector enterprises up their bootstraps and catapult them onto a growth path so as to close the divide from dominant large corporates employing less than five percent (other than public administration) of the total work force. The financial sector dualism that obtains in the country is as much a cause as it is an effect of the economic

dualism with its concomitant but unacceptable social effects in a political democracy.

12.42 The banking system has acquired, ever since the policies of liberalization and globalisation, a conventional and western bank oriented risk management practices. Such an orientation has pushed the system into a process of gradual harmonization with international best practices, especially the standardized approach to credit risk under what is called Basel II norms. In tandem with this new orientation the RBI observes, in its *Report on Currency and Finance 2006-08*, that “supply-driven credit, which is being followed at present in India and several other countries has not been effective” for agriculture and even the SME sector (page 58). The Report therefore resurrects the philosophy of demand-centric approach for both the sectors i.e. credit based on land as collaterals for agriculture and asset-based financing for the SME sector.

12.43 Under such tightened prudential norms, banks have become increasingly risk averse. SMEs are perceived as high-risk entities because they lack credit history, informational deficiencies and so on. What is neglected here is the ground reality of structural weakness of these entities manned, managed and sustained by worker-owners and small entrepreneurs where they are not in a position to neatly separate their livelihood requirements from business activities. To overcome these basic characteristics and weaknesses, the banking system has to respond with relevant innovative approaches and instruments while expanding its institutional outreach; in short, the imperative for a developmental banking system.

12.44 Viewed in this perspective, some of the recent developments in the banking sector are indeed disturbing despite the declared policy of the government for greater financial inclusion. The RBI (2007) statistics reveal that there has been a steady decline in rural bank branches from 35,360 in March 1993 to 30,551 in March 2007. Given the underbanked rural areas the policy should have been to add another 5000 to 6000 branches. Moreover the number of bank employees in rural and semi-urban branches declined by 46,060 between March 1996 and

March 2005. There has been further reduction but this needs to be examined in view of the reclassification of branches as per 2001 population census.

12.45 The Commission's interaction with bankers as well as representatives of small and micro enterprise associations revealed that there has been a dilution of the norms under the Priority Sector Lending Policy. For example, loans of certain kinds granted to corporates, partnership firms and institutions were classified under agriculture. These relate to loans for post-harvest activities, crop loans of up to Rs one crore and one third of the incremental loan, loans to arthias (commission agents), and loans to NBFCs for on-lending to farmers. Similarly, educational and housing loans were also included under the priority sector.

12.46 Given the potential of the non-farm informal sector (as well as agriculture) for contributing to a broad-based and therefore inclusive growth, there is an urgent need to reorient the banking system and its goals in general and credit policy in particular. It is with this perspective, that this Commission puts forward its recommendations.

Conclusion and Policy Recommendations

12.47 Our analysis in this chapter as well as in our earlier report (NCEUS 2007b) shows clearly that large segments of the Indian economy such as micro and small enterprises in the non-farm informal sector are still excluded from the formal financial system and the problem of access is even worse for micro enterprises. The enterprises with an investment of less than Rs. five lakhs today get less than 2 percent of Net Bank Credit and virtually no support for marketing, technology and enterprise development even as they constitute 94 percent of all small enterprises. Enterprises upto Rs 25 lakh received 4.3 per cent of SCB's credit. Even after including all sources (SCB, RRB, UCBs) share in credit is not more than 5.3 per cent of NBC. Further, a major part of credit to micro enterprises is piggy backed on Government sponsored credit linked self-employment schemes.

12.48 The banking sector under the policy of liberalization seems to be insensitive to the needs of the

informal sector. In addition to lack of access to credit, a further deterrent to the efficient functioning of micro enterprises is their inability to pay a high interest rate, meet collateral requirements and cope with the plethora of procedures and formalities. Despite the many committees and interventions in the realm of policy and institutional framework by the Government, no perceptible improvement has taken place with regard to the credit flow to unorganized sector enterprises. In fact, there has been a decline in credit flows to these segments. Though there has been phenomenal growth in micro credit through SHG-Bank Linkage Programme, there are still many problems which need to be addressed. Micro credit is mostly for production and consumption purposes of the lower segment of society as the average loan per person is between Rs 3000 to Rs 4000 and thus falls far short of the minimum project size of a micro enterprise. While the micro credit system has a useful role to play in providing a measure, however small, of relief to the credit starved self-employed poor, this should not be seen or projected as an alternative to the need for reorienting the formal institutional banking system which has a greater responsibility for realizing the goal of inclusion in substantive measure.

12.49 Since non-farm informal enterprises alone have the potential to create large scale employment at low capital cost, in a context where large industries are experiencing negligible employment growth while the employment elasticity in agriculture is also low and declining, it is essential that these enterprises should get adequate and timely credit at reasonable cost. Thus, the Commission has given the following recommendations on financing as well as a separate recommendation for the creation of a National Fund as a statutory body funded by the Government and Financial Institutions that will primarily focus on enterprises with an investment of less than Rs. five lakhs.²

12.50 The priority sector lending policy needs to be revised by providing a quota for micro enterprises and others as available to agriculture and weaker sections. In so far as agriculture sector is concerned within its 18 percent of ANBC as priority sector quota, a reservation of 10 percent of ANBC and 8 percent of ANBC should

² In the light of the observations of IMG and other recent developments, the actual status of implementation of major recommendations has been brought out in the statement presented in Appendix 12.1

be made for marginal and small farmers respectively. For the weaker sections for which a quota of 10 percent of ANBC exists, the upper limit of loan should be fixed at Rs 5 lakh along with changes in the eligible categories as suggested in the report. The balance of 12 percent of ANBC out of the total 40 percent of ANBC as priority sector lending quota, should go to micro enterprises and others with the breakup of 5 percent of ANBC for enterprises with investment up to Rs 5 lakh, additional 3 percent of ANBC for enterprises between Rs. 5 lakh and Rs. 25 lakh of investment and the balance to other eligible categories as given in the report.

12.51 In order to ensure compliance of the priority sector guidelines by making loans to the needy sector instead of depositing the unspent amount with financial institutions, it is recommended that RBI should devise a mechanism to dis-incentivise depositing money with financial institutions. Further if the shortfall continues, 50 percent of the shortfall in the priority sector lending either by domestic or foreign banks, should be deposited with the proposed National Fund for the Unorganised Sector.

12.52 There is a need to provide adequate safety nets to the banks to encourage lending to Non-farm Unorganised Enterprises (NFUEs) by bringing suitable changes in the credit guarantee scheme and introducing a specially tailored credit rating arrangement for them.

12.53 The rate of interest on loans to the micro enterprises (i.e. those below Rs. 5 lakh investment) should be the same as charged from agriculture.

12.54 In order to change the approach of the bank personnel in favour of NFUEs there is a need for their training so that they are able to appreciate the problems of these enterprises.

12.55 There is need to bring in uniformity in the rate of margin money support under each government-sponsored programme. It should be fixed at 25 per cent on the pattern of Rural Employment Generation Programme.

12.56 Banks should adopt the Agency Model with its Business Facilitators and Business Correspondents thereby utilising the service of civil society organisations. Further,

in order to strengthen the delivery points, the profitability of a bank branch needs to be assessed for a group of branches rather than individually. The rural bank branches should be strengthened with technical manpower.

12.57 The constraints which inhibit micro finance to graduate to micro enterprise finance should be removed through capacity building of SHGs and MFIs and provision of livelihood finance.

12.58 Innovative financing instruments such as factoring, venture capital, credit rating, and a single multi-purpose Swarojgar Credit Card for the unorganised sector on the pattern of Kisan Credit Card with a limit of up to Rs. 10 lakh may be introduced.

12.59 To save the lower segment of micro enterprises from undue harassment, the limit of loan for action under the Bank Securitisation Act, 2002 may be raised from Rs.1 lakh to Rs. 5 lakh.

12.60 Since the major part of credit to the lower section of micro enterprises flows through the government sponsored programmes there is a case for enhancing the target of these schemes to expand the employment opportunities in the Non-farm Unorganised Sector.

Creation of a National Fund for the Unorganised Sector (NAFUS)

12.61 Having examined various forms of organization the Commission recommends that the proposed Fund be created as a Statutory Body under an Act of Parliament. Considering the vast resource requirements to provide increased credit support to the unorganised sector, NCEUS proposes an authorized capital of Rs. 1000 crores for the proposed institution. The initial paid-up capital is proposed at Rs. 500 crores in 2007-08 which would be gradually enhanced to Rs. 1000 crore by 2011-12. The paid-up capital may be funded by the Central Government, public sector banks, financial institutions and other agencies in such a way that the control of the Government of India directly or indirectly shall not be less than 51 per cent. It may be noted that SIDBI and NABARD have paid up capital of Rs. 450 crores and Rs. 2000 crore respectively and the proposed Fund's size of operation is likely to be between these two organizations.

12.62 The target group of the Fund shall be all enterprises in the unorganised sector covering non-farm activities employing less than 10 workers, primarily those with investment in plant and machinery not exceeding Rs. 5 lakhs (excluding land and buildings) at 2004-05 prices, if engaged in manufacturing, and investment in plant and machinery not exceeding Rs. 2 lakhs if engaged in non-manufacturing. However the upper limit of financing by the Fund will be enterprises with investment in plant and machinery not exceeding Rs. 25 lakhs, if engaged in manufacturing and investment not exceeding Rs. 10 lakhs, if engaged in non-manufacturing activities.

12.63 The main aim of NAFUS will be to bring about increased employment and higher incomes for people engaged in the unorganised sector by promoting and catalyzing the growth of the sector. Given the contribution of this sector to employment and the national economy, these objectives will promote inclusive national economic growth and reduce poverty and deprivation.

12.64 NAFUS will cater to the developmental needs of the unorganised sector through assistance to a range of promotional and developmental activities in the areas of credit, marketing, skill development, technology up-gradation, refinance, factoring services and common infrastructure development.

12.65 In order to fulfill its mandate, NAFUS will work in partnership with the existing financial institutions, national and state level agencies, micro-finance organisations, private and corporate bodies, R & D laboratories, marketing agencies, etc.

12.66 In the field of credit, the Fund will provide credit assistance to unorganized sector through (a) refinance to banks and other financial intermediaries as in case of agriculture refinance, to supplement their efforts to provide credit to unorganised sector enterprises with investment in plant and machinery up to Rs. 5 lakhs, with an upper limit on enterprises with investment in plant and machinery up to Rs. 25 lakhs, (b) provide micro finance support through NGOs/ SHGs/ Micro Finance Institutions (MFIs)/Formal Financial Institutions (FFIs) like banks/ cooperative banks / RRBs/ NBFCs, etc. and, (c) provide seed capital and such other start up capital

requirement for the new entrepreneurs in the unorganised sector.

12.67 The Commission has made projections for the operations of the Fund for enterprises up to Rs. 5 lakh investment and all enterprises with investment up to Rs. 25 lakh respectively under specific assumptions. The main uses of funds are (i) refinance, (ii) developmental support, (iii) interest payments on borrowed money and (iv) administrative expenses. These amounts have been estimated year-wise for the first five years of the Fund's operation. The main financial sources of NAFUS will consist of interest income, government budgetary support, and market borrowing. The funding for the financial operations of the National Fund shall be largely met from domestic market borrowings through SLR bonds, tax free bonds, borrowing from the international markets with GOI bearing the exchange risk.

12.68 Current economic meltdown has made the situation more alarming. Therefore in addition to the aforementioned suggestions, the Commission makes the following additional recommendations.

12.69 The RBI has tried to follow a credit policy of injecting additional liquidity in the system by reducing interest rates to increase the flow of credit. However, in spite of substantial increase in the liquidity of our banking system in the last 3-4 months, this has not happened because many of the corporate sector units have lost credit worthiness and the banks are unwilling to provide them with additional credit even with a substantial accumulation of reserves in the system.

12.70 The policy has to be more direct intervention to see that credit is expanded in deserving sectors and to make more of those sectors engaged in productive activities becoming more credit worthy. This calls for adopting sectoral policies to increase the credit flows, operating on marketing incentives for the productive units. The sectoral policy should be based on the scope of expanding business on employment. Since micro enterprises (with investment in P&M of Rs 25 lakh) produce mainly for the domestic market, the sectoral policy should aim at expanding the credit flow to this sector in proportion to its contribution to GDP which is

capable of expanding production and generate immediate employment.

12.71 Similarly, the small and marginal farmers (who are more than 80 per cent of the farmers) have received very little credit from the banking sector, even though they account for more than 50 per cent of our food production. Any increase in credit to this sector would expand domestic market and employment. Stimulating

domestic market would be most important when global markets are contracting and exports are falling.

12.72 Directives should be issued to SIDBI and the Commercial Banks that at least 60 per cent of the stimulus package should be utilised on refinance for micro enterprises. Finally, banks should be mandated to make Credit Guarantee Scheme available for loan up to Rs 5 lakh.

Appendix 12.1: Status of Implementation of the Commission's Recommendations

Recommendation	Action Taken
(i). The Priority Sector Lending Policy needs to be revised by providing a quota for micro enterprises and others as available to agriculture and weaker sections	(i). No change has been made in Priority sector lending policy so far which was last announced to on 30th April, 2007. Credit to micro enterprises continued to decline as percentage of NBC till 2006-07. It has marginally improved in 2007-08. It may be mentioned that Raghuram Rajan Committee in its report on Financial Sector Reforms (2008) has also recommended revision of Priority Sector Lending Policy in favour of the needy and weaker section of the society who are less creditworthy.
(ii). Provide safety nets to banks through suitable changes in Credit Guarantee Scheme.	(ii). Credit Guarantee Fund scheme for Micro and Small Enterprises has been revised by Ministry of MSME. ➤ Guarantee cover on loan upto Rs. 5 lakh has been raised to 80 per cent from 75 per cent earlier. ➤ Guarantee fees has been reduced to 1 per cent from 1.5 per cent and service charges from 0.75 to 0.5 for loan upto Rs. 5 Lakh. ➤ Lock-in period of claim on default has been reduced from 24 months to 18 months.
(iii). Keeping the rate of interest of loan upto Rs. 5 lakh same as agriculture.	(iii). No action taken to reduce interest which is still linked with PLR. The current PLR is 13 per cent and normal spread of 3 per cent spread raises the rate of interest to 16 per cent for loan above Rs 2 lakh. RBI is of the view that interest rate of 7 per cent has been fixed for short-term loan to the farmers, since this sector is passing through crisis.
(iv). Maintain uniformity in the rate of subsidy of various credit linked self employment schemes.	(iv). PMRY and REGP schemes have been merged and uniform rate subsidy has been fixed separately for rural areas and urban areas beneficiaries by the Ministry of MSME.

Recommendation	Action Taken
(v). Measures for enhancing credit absorbing capacity of enterprises through investment on skills, marketing, technology up-gradation & enhance their confidence through hand. (vi). Adopt Agency model to improve delivery. (vii). Issue a single Multi-Purpose Swarojgar Credit Card for non-farm sector upto Rs 10 lakh, on the pattern of Kisan Credit Card. (viii). Creation of National Fund for Unorganised Sector (NAFUS)	(v). A new scheme of Rajiv Gandhi Udyami Mitra has been launched for handholding and guidance of potential entrepreneurs by the Ministry of MSME. (vi). Directions were issued to the Banks by the RBI for adoption of for the agency model in 2006. RBI is of the view that the progress need to be reviewed before a view is taken to incentivise the banks to adopt agency model. However, it is not in favour of tax sops to banks. It suggests recovery of cost of agency model for doorstep service from the customers. (vii). While RBI agrees with the, recommendation it recommends greater utilization be made of the Swarojgar Credit Card (launched in 2003) which aims to provide adequate and timely credit i.e. working capital and block capital to small artisans, handloom weavers, service sector, fisherman, self-employed persons, rickshaw owners, etc. from the banking system and recently launched General Credit Card available upto Rs. 25000. (viii). Following action has been initiated to set up NAFUS:- ➤ The Ministry of MSME has examined the Report and has recommended creation of NAFUS. ➤ The Inter-Ministerial Group (IMG), constituted by Cabinet Secretariat and notified by Ministry of MSME vide its Order dated 1 August, 2008 to examine various Reports of the NCEUS and determine specific action points on the recommendations besides modalities and timelines for implementing various action points, in its first meeting held on 14 November, 2008 under the Chairmanship of Secretary, Planning Commission has recommended creation of the Fund. IMG decided in the meeting that to start with, the fund may be operationalised by creating

Recommendation	Action Taken
	a subsidiary of SIDBI or SPV of SIDBI/ NABARD and other financial institution, etc., which can in due course evolve as an independent institution under Ministry of MSME as eventually a separate organisation will only be able to do justice to the funding for the unorganised sector. ➤ The Ministry of MSME has now circulated a draft note for the Cabinet for setting up of a fund for the Unorganised Sector, namely, 'National Fund for the Unorganised Sector' (NAFUS) in the Ministry of MSME. In the note it has also been proposed that the initial corpus of the fund shall be Rs. 1000 crores to be provided through budgetary support, which would be increased subsequently as per the requirements.

13

Access to Technology, Marketing and Raw Materials

Introduction

13.1 In addition to access to credit as discussed in the preceding chapter, the ability of the enterprises to survive as well as grow hinges crucially on the organizational structure that is in place with respect to three other crucial inputs, such as access to technology, marketing and raw materials. They constitute major constraints for enterprises in the unorganised sector. Therefore, keeping in mind these three crucial inputs, this chapter looks at factors that influence, impede or generate a favourable framework for the products produced by the unorganised sector in India.

13.2 Liberalization and the accompanying policy of economic reforms have created a new environment exposing the vulnerability of the micro and small enterprises (MSEs) while at the same time providing new and greater challenges for their growth and adjustment. The post-liberalization business environment has become harsh for the MSEs because of increased internal and external competition. In addition, the far-reaching impact of the various WTO norms is now threatening to further affect the fortunes of MSEs. Unfortunately, despite the growing awareness of the impending threats, the MSEs do not appear to be adequately prepared for the new challenges.

13.3 This chapter is divided into four main sections. In the first section, we discuss issues pertaining to access to technology and focus on all three aspects of the modernization of MSEs, i.e., technology acquisition, adaptation and innovation. Specifically, this section deals with the critical analytical issues that arise in this context and highlights some of the best practices with a few successful experiments in this regard. The second section examines the issues associated with access to marketing. The focus of this section is on various policy measures and organizational arrangements to overcome the difficulties associated with marketing. The third section focuses on access to raw materials and provides brief presentation of a few case studies of specific industries in the unorganised sector. The last section gives conclusion and policy recommendations, including the specific suggestions made by the NCEUS.

Access to Technology

13.4 A crucial aspect of MSEs being able to be effective wealth creators and to enhance their productivity is the extent of modernization and technological upgradation that take place in their production systems. While their ability to access existing technology and adapt it to their needs is crucial, the extent to which such enterprises

innovate at their own levels is also considered critical in contributing to their productivity and growth. These processes of technology acquisition, adaptation and innovation would not only facilitate their moving up the value chain and thus prepare them to effectively meet the challenges of a competitive environment but also create conditions for overcoming the prevailing disjunction between the organized and the MSEs. To this end, understanding these processes in MSEs assumes significance.

Technology and Innovation in MSEs: The Salient Analytical Issues

13.5 The processes to do with technology and innovation in MSEs are different from those that take place in larger firm contexts. First, MSEs innovate more informally than large firms, that is, without developing an explicit strategic framework for innovation, and outside the framework of formal R&D projects (Cappellin 1998). Knowledge accumulation and learning within MSEs has a distributed nature: rather than being the outcome of a well-specified and pre-organized 'project', it emerges from the interactions of loosely connected agents and from the accumulation of minor improvements, leading to unexpected results in technology. This characteristic, of innovations in products or processes being 'incremental', contributing however to fairly significant spurts in productivity, has been found to be very significant in contexts where MSEs function as a cluster or in a group.

13.6 Second, MSEs are seen to be more region-centered than large firms. They are more locally bounded and depend strongly on their direct institutional environment. Once again, this is an experience that has been borne out in contexts where firms tend to cluster together. Technology and innovation processes thus calls for the integration of various different technological and organizational knowledge inputs that often derive from other firms belonging to other sectors and also to other regions (Cappellin 1998).

13.7 Third, technology in the MSE sector has an increasing 'complex' or a 'combinative' character. It consists of the capability to integrate various elementary technologies, which may be complementary between themselves, while focusing on a specific and often very

specialized and innovative field of application. Moreover, the process of learning does not occur through knowledge accumulation within the firm in isolation. On the contrary, innovation processes in MSEs are tightly related to the various forms of co-operation within a network of firms and other local actors. Thus innovation process may be conceived as an 'interactive learning process', since innovation is based on the capability to combine the internal cumulated competencies within the firms, with the needs of the clients, the networks of specialized suppliers, other complementary firms and various other intermediate institutions and organizations.

13.8 Fourth, given the heterogeneity of MSEs, innovation opportunities differ greatly among the various groups and this has implications for firms' needs. Some firms are ready to introduce innovations relevant for their purposes, while others are unaware of potential innovations. Small enterprises have a greater difficulty to have an innovation routine.

13.9 Fifth, very crucially, only a very small percentage of MSEs have the financial and organizational capabilities to generate internal resources for innovation. This reiterates the need of strong scientific public research as some industries rely much more on interconnections with knowledge generated in the public domain as small firms on the whole are less able to take advantage from a good network of public science even though some of the small firms in science based sectors have more interactions with public scientific research than large firms. Further, very often, despite a willingness to undertake technology upgradation, MSEs are not in a position to access finance due to unreasonable terms that they are confronted with.

13.10 Finally, the issue of technology acquisition, especially in MSEs, has to be linked up with issues of skill development and employment conditions as most often the decisions to upgrade technology are dependent on the availability of suitable labour and the terms on which it can be employed.

13.11 Having outlined the salient considerations in the processes of technology acquisition and innovation in MSEs, we can distinguish between different types of MSEs and their technological needs. First, there are micro

enterprises that are active in a specific geographical area (clusters, districts, etc.). These are typically extremely specialized in some stage of the value chain and/or in a product niche. They develop linkages with the other firms in the area and learn via informal processes, acquisition of capital goods or interactions with other companies. The technological strength for them derives essentially from the processes of knowledge sharing and knowledge flows that take place in the geographical area where they are located, which in many cases are informal. In a survey that was commissioned for this report, and conducted in the auto components and machine tools sector in Bangalore, it was found that MSEs were very often set up by former workers or employees in larger enterprises (Mahadevan and Rajkumar 2008). Since they start off as unregistered units, they do not have the advantage of technology related advisory services from any official agency. More so, these workers-turned employees did not have adequate assets to produce as collaterals, and thus faced difficulties while availing loans for the first time from banks. But the advantage that such entrepreneurs had was the contacts, developed in their previous employment, which enabled them to acquire job orders as they commenced new business. This highlights the fact that the background of the entrepreneurs is crucial in determining the extent of interest in technology acquisition and also in providing informal information. It also brings to the fore the fact that the informal nature of acquiring information on technology upgradation possibilities or even feeling the necessity for upgradation. This happens because of the lack of formal awareness of schemes that are in existence.

13.12 There are also enterprises based on processes of division of labour and specialised in the supply of intermediate products and components to other (often larger) enterprises. They work on the basis of organised sub-contracting relations and hierarchies. The primary source of knowledge for technology and innovations for these enterprises come from their participation in the network of sub-contracting and very often rests on the ability and willingness of the larger firms to pass technology down to enhance the productivity of the entire value chain. In the survey mentioned above, it was found that even with subcontracting relationships, the nature

of the job done was not always the same, making the issue of technology acquisition complicated. In the survey, it was found that MSEs did not consciously make any distinction between machine tools and auto components. Depending upon the nature of orders, they execute jobs. During the field work, it was found that a unit was executing job orders given by a leading hardware-selling multinational corporation, although that unit was also accepting orders for auto component machining.

13.13 The need of the first and second kinds of enterprises is to access a variety of sources of knowledge, especially from clients and suppliers. While the second category enterprises need a stronger, independent knowledge base which warrants some facilitation of communication with clients and get access to external knowledge, the first kind of enterprises rely much more on informal, local knowledge flows located in the network of firms. Not only is it necessary to have technology related services available to manufacturers, it is also essential for this information to be disseminated adequately.

13.14 Given the above characteristics of the process of innovation and technology acquisition in micro-firm contexts, the commonly accepted sources of such ingredients of upgradation are both internal and external to the firm. Internal sources include formal R&D, design and tooling-up, learning-by-doing and learning-by-using, internal human resources and training and marketing. External sources include R&D performed jointly or under contract by some specialized supplier of R&D services, the acquisition of licenses and the purchase of patents and other industrial property rights, the exploitation of scientific and technical literature, including patents as well as participation to conferences and workshops, internet resources, acquisition of machinery and equipment linked to product and process innovations, knowledge acquired through interactions with suppliers of equipment, materials, components or software, imitation of competitors, including reverse engineering, knowledge acquired by clients, through an improved understanding of user needs, services provided by consultants, participation to exhibitions and fairs (see OECD 1992). These sources are common across different sizes of firms. But in micro-firm contexts, the need is to go beyond individual firms to focus on groups of firms, to abandon

‘across-the board’ policy interventions and move to targeted or sector specific policy instruments. Further, especially in small and micro-firm contexts, the need for public institutions to facilitate the processes for such modernization becomes crucial. This allows technology providers to reach out to individual firms or groups of firms and these firms too in turn approach these ‘intermediary’ institutions to access technology that is available.

13.15 It is against this backdrop that the next section outlines some of the best practices with respect to the development of appropriate technology for the MSEs in India. Three cases of successful intermediaries that foster innovations among MSEs are presented below. First is the Central Leather Research Institute (CLRI), which follows the government model, second is Rural Innovations Network (RIN), which is guided by the free market considerations and the third is the Entrepreneurship Development Institute (EDI), which forges private partnership and intervenes in a cluster/region.

Technological Interventions and Innovations that transform an industry: the Role of the Central Leather Research Institute (CLRI) in the Leather industry

13.16 The CLRI was set up in 1948, at a time when export basket of the country was dominated by raw hides and skins, to add technology to the manufacturing base of Indian leather. The institution is perhaps one of the earliest attempts to link technology system with academy and industry. As a constituent laboratory and an R&D centre of CSIR, CLRI was established in the then city of Madras (now Chennai). From the very outset, CLRI has had very close links with the industry especially the organized sector and has played a pioneering role in promoting and fostering modern technology in the leather sector. In fact, CLRI is probably among the few government sponsored research institutions whose R&D work has proceeded in tandem with the industry’s requirements. Thus it has provided vital technological support to the industry in such thrust areas as leather process technology, leather chemicals, effluent treatment, product design and quality standardization and above all supplying the trained manpower required for different sectors of the industry.

13.17 Since the early 1990s CLRI has made a conscious effort to direct its research activities to the unorganized sector in response to the crisis in the sector as reflected in the imbalance between the organized and the unorganized sector as well as to the need for a balanced and sustainable development of the sector in the context of the newly emerging competitive environment. This was first outlined in 1992 in the UNDP assisted National Leather Development Programme (NLDP). Which was further carried forward by the Leather Technology Mission (LTM) in 1994-95 and, in 2004, by the HRD Mission for Leather. The primary objective of these missions was essentially one of promoting and sustaining a technology culture in the entire workforce of the leather sector in order to optimize the value realization from Indian raw hides and skins. In so far as the unorganized sector was concerned it involved adopting a grass roots approach or as the HRD mission statement put succinctly “reaching the un-reached”. More specifically it involved correcting local deficiencies by means of exposure to scientific methods of production through modern technology wherever possible so as to enable the artisanal and small scale sector to cope with technological change and pave the way for a better integration of the segments within the sector.

13.18 The institute’s focus in early stages was to generate, assimilate and innovate technology, for an industry which was mainly decentralized and unorganized. Apart from this, overtime CLRI has assumed new roles with a profound influence in shaping the landscape of India’s leather industry. From a technology generating institute, CLRI today has moved to more public private partnerships to become the world’s largest leather research institute.

13.19 Discussions with leather manufacturers reveal that almost all the small units in and around Chennai have one way or other benefited from the activities of CLRI. To meet the industry demands outside, CLRI has established regional centres in Kolkota, Kanpur, Jalandhar and Ahmedabad and has forged many public-private partnerships with a number of outreach mechanisms.

13.20. The following is a brief summary of some of the major efforts of CLRI to induce innovations among MSEs.

- A massive tannery modernization program was launched. 109 tanneries were modernized by investing 11.6 crore rupees.
- Helped to attain near self sufficiency in leather chemicals need. At present nearly 85 percent of the needs are met indigenously.
- Completed 170 projects in 16 states linking 49 NGOs and 5840 artisans and 12 industrial bodies in the last decade.
- Launched the tannery workers vocational qualifications program with IGNOU.
- Technology camps were conducted in village tanning and Kolhapuri sandals for artisan skill up-gradation.
- Introduced a new segment, the 'rehabilitation footwear'.
- Eliminated the demand for fresh water.
- Comfort quantification was introduced in shoes and apparels.
- Introduced the transition from chemical to bio-processing of leather.
- Footwear product research strengthened and diffused among small producers.

13.21 Viewed from the perspective of the enterprises CLRI has become the one stop solution centre for their problems. One instance is noteworthy to highlight this point. In course of our discussions with a small tannery owner he attributed his survival to CLRI. To elaborate, in April 1996 the Supreme Court of India ordered closure of 400 tanneries in Tamil Nadu, due to non-adherence to pollution norms. The small units did not have an option but close, as they lacked the technology and finance to introduce more efficient effluent treatment processes. CLRI at this juncture developed a technology plan and gained the support of socio-political will. CLRI, NEERI and Tanners' Association implemented the plan. With 145 people working together, within 9 months technology solutions were provided. This saved nearly 2.5 lakh jobs, with 100 percent of the units adhering to pollution control norms.

13.22 Interviews with manufacturers also revealed that in the wake of globalization CLRI's assistance was in

demand even in non-technology areas. For example a number of small producers found the leather fairs and fashion parade conducted by CLRI as creating more marketing avenues. They also benefited from fashion forecasting services. In the post WTO era eco-testing laboratory was also found to be useful for small enterprises along with the global bench-marking scheme. While some other manufacturers considered the ability of the institute to conduct specialized training programs and testing services especially for shoe upper very useful for them. A third set of small producers acknowledged CLRI's services in product diversification. They benefited from the use of leather in combination with bamboo and silk, leather shawls from waste leather and the conversion of waste into dog biscuits and chicken feed. Innovation introduced via CLRI has also helped producers to enhance their productivity, especially in the case of shoes. One small unit reported that they could save 10 percent in materials leading to a 15 percent decline in cost of production and 30 percent increases in productivity. This was attributed to a system of optimization of materials to the time for conversion of leather to specific design of shoes.

13.23 CLRI thus presents the case of a government institute understanding the needs of the industry and responding to it by forging alliances with private parties, NGOs, industry associations and workers. Initially started as a technology development centre, it expanded into other areas to introduce non-technological innovations. While all this was accomplished, it addressed the needs of small enterprises with tailor made programs for addressing their needs.

Fostering rural innovations - the Rural Innovations Network

13.24 Rural Innovations Network (RIN) identifies and incubates grassroots innovations, which can have a significant impact on rural lives and lie untapped, in spite of their potential to transform lives. The objective is to enhance the wealth of rural regions via innovations through a fuller expression and application of local knowledge. RIN acknowledges that rural people intimately understand their environments and create thousands of innovations that have immense potential to improve the well-being of the rural population.

According to them what rural innovators don't have is access to the skills, networks and other resources needed to take their innovations to the market. RIN believes many rural innovations can be successfully commercialized as micro-enterprises that benefit rural consumers and contribute to sustainable wealth creation. The premise is that once a model is established to transform ideas with potential into reality, a virtuous cycle comes into operation, encouraging further innovation and wealth creation in rural areas. As an incubator, RIN impacts all aspects of this cycle - innovation, rural enterprise, rural users and wealth creation.

13.25 RIN employs selection criteria while evaluating innovations for incubation support. The major criteria used to assess any innovation and innovator are the impact, sectoral focus (RIN primarily focuses on innovations in the agriculture, dairy, water and energy sectors), grass-root nature, innovativeness, viability, commitment and the ability of RIN to deliver value. The following are the programmes by RIN:

Lemelson Recognition and Mentoring Programme: This programme aims at seed funding and mentoring ideas and enabling them to reach the market. This programme is a collaborative venture of the Indian Institute of Technology Madras and RIN and is funded by the Lemelson Foundation. As part of this programme, RIN reaches out to innovators through a hub and spoke model with nodal centres in four reputed institutions. They include the Tamil Nadu Agricultural University, Vellore Institute of Technology, PSG College of Engineering and Gandhigram Rural Institute.

Innovation to Market Programme: This programme aims to scale-up innovations through partnerships with those institutions that have a rural presence across India. The partners include Tata Kisan Sansars, Basix and International Development Enterprises India. This programme is being funded by Hivos and Sir Dorabji Tata Trust.

Samruddhi: This programme aims to create village level prosperity by improving last mile linkages.

In this project, RIN makes accessible innovations to rural farmers in selected districts of Tamil Nadu through partnered or direct retail channels.

Srishti: This project offers innovators services such as engineering and product design, fabrication, field trials etc., so as to build better new products. This project is a partnership between Vortex Engineering and RIN.

13.26 The RIN presents the case of a market model where the crucial role to promote innovation is left to market forces. According to this approach, this crucial role is played by a private intermediary, through professional services, technology brokers, venture capitalists and specialized new research start-ups, which the RIN undertakes. However, even then the public authorities can play a crucial role in facilitating the circulation of information and in enhancing a higher level of formal education of the potential innovators.

Intervening in a cluster: EDI in Jamnagar brass parts cluster

13.27 From a few insignificant brass button making units in the cottage sector in the early 1940's, Jamnagar now has a vibrant full-fledged Rs.700 crore industry with almost 5,000 units engaged in manufacturing brass-parts and components catering to over 150 industries, with a product range of as many as 5,000 items. This is besides the 3,500 home-based units, which support job and manufacturing units with some odd labor-intensive jobs. A staggering 1,00,000 people are employed here. But in the late 90's, exports started plummeting and the domestic market got sluggish. The Jamnagar industry was getting squeezed out of reckoning by manufacturers from China, Taiwan, Malaysia, Germany and Italy. As many as 1,500 enterprises downed shutters by the turn of 2002.

13.28 The Entrepreneurship Development Institute of India (EDI), at the instance of the Gujarat Government and supported by the UNIDO, stepped into Jamnagar to provide help. The situation in which the EDI started work could be understood from the fact that there was no proper documentation of even the number of brass and related units in Jamnagar with anyone. The local district industries center had information only on 2,571

brass-parts units, which too was only a guesstimate for it was updated annually only to the extent of adding new units to the existing base. The EDI collected the database afresh, while its researchers also interviewed many old-timers to piece together the history of the industry in Jamnagar. EDI experts suggested cheap and easy technology changes, explaining the manufacturers the need for their traditional processes to come off age. Through an exhaustive survey, EDI identified what ailed Jamnagar's brass parts industry and found the industry still had the potential to get back to its fast growth track. It organized technical, process-specific workshops as well as exposed the manufacturers to new changes taking place the world over in their industry and how their competitors in other countries were beating them.

13.29 EDI's "Brass Parts Cluster Development Project" not only helped entrepreneurs in setting up brass-casting units but also showed them how to make a success of it. Even minor changes like the sitting place of workers enhanced productivity. A team of foundry experts from the Netherlands Management Cooperation Programme (NMCP) and Indian Institute of Foundry brought by EDI, increased the productivity of units by 20 percent. As most of the factory owners there were poorly educated or even illiterate who inherited their business and had been carrying it out as their forefathers had been without knowing or even bothering for the technological advances, the EDI has made them aware that technological improvement is a constant process and that they must adapt to the changing industry trends to survive and beat the competition.

13.30 EDI opened up a new vista of change. This resulted in as many as 25 units having got certification from the International Standards Organisation (ISO), while 24 have obtained the registration from the Bureau of Indian Standards (BIS). The EDI has not restricted itself to technological interventions, but has taken a holistic approach for the overall development of the Jamnagar's brass parts industry. The Institute's diagnostic study of this industrial cluster of small and medium enterprises also revealed an urgent need for marketing and exports back-up. EDI also organized training

programmes and workshops on international marketing and export procedures to improve the export-worthiness and identified existing and potential importers worldwide through Indian Embassies and importers' directories and disseminated the information to entrepreneurs during the workshops. The EDI, significantly, understood the need for Business Development Services (BDS) crucial to sustenance and growth of the units. It was found that because of the dearth of technical BDS providers, the processes like casting, machining and plating operations had not changed much in two decades. It was learnt, for instance, that there is no pressure dye-casting machine, electro-polishing plant or brazing chamber in the entire cluster. The EDI took this as a challenge and trained a group of engineers to provide technical BDS to the cluster. The EDI also introduced a concept of cooperation and joint decision making among the entrepreneurs by setting up five consortiums, which held regular meetings to dwell on issues relating to the cluster's development.

13.31 EDI's intervention and innovation efforts in Jamnagar follows a model which encompasses those policy instruments, which are supported by public resources, but have been clearly created by a bottom-up initiative of private actors/ groups.. A crucial role in this case is played by the co-operation between enterprises and by independent foundations or research institutions. Stakeholders were grouped together around an industry association and regional development agencies were helpful instruments in promoting local co-operation. This approach, has some similarities with the experience in European countries in terms of some innovative instruments, such as Regional Development Strategies and the adoption of modern "knowledge management" methods within territorial networks, in order to facilitate the relationship between local firms.

Technology Acquisition and Upgradation: Two Case Studies

13.32 We present two best practices examples of technology acquisition and upgradation (TAU). Box 13.1 narrates the experience of TAU in Textiles in Coimbatore and Box 13.2 presents the experience of CLRI's interventions to foster TAU.

Box 13.1: TAU in Textiles: Case Study of Coimbatore

The textile industry plays an important role in the Indian economy in terms of its contribution to economic growth, employment generation and exports. Tamil Nadu has been noticed as an important player in textiles, particularly in respect of cotton spinning and weaving. By the end of 2005-06, there were as many as 909 spinning mills falling under Small Scale Industries (SSI) segment and 815 non-SSI spinning mills. Those SSI spinning mills employed nearly 32 thousand workers, which is little over one sixth of total workers employed in the textile industry within the state. Thus, the industry has the presence of both large and small units. Moreover, there are mills exclusively for spinning or weaving, as well as there are composite units. Within Tamil Nadu, Coimbatore has the largest numbers of spinning mills.

This Case Study is based on data collected from enabling institutions and industries associations as well as from owners of certain selected MSE units. Thus, efforts were made to collect information from small mills located in Coimbatore city, as well as how various agencies have enabled technology acquisition and upgradation (TAU) process amongst small players.

In cotton textile industries, there are basically four major activities, namely, ginning (cleaning of cotton), spinning (converting cotton into yarn), weaving (yarn to fabrics), and making garments and apparels.

Smaller units do specific jobs depending upon specialization as well as availability of labor. These units often get some process outsourced by larger units. For instance, larger units had the obligation of making hank yarn for handloom weaving sector, but they had facilities for making cone yarn, which is different from the one required for making hank yarn. And so, these larger units used to outsource such activities to smaller units.

The process of TAU has been obstructed by several factors. More notably, they (smaller units) pointed out that lack of funds, whether from internal or external sources, was the major contributory factor for slow technological up-gradation. These units normally operate with a squeezed margin of 5-10%. Most of their funds often get locked up in working capital that reduced availability of internal funds to finance TAU. As for external funds are concerned, they do admit that government schemes are available; but as scope of coverage of such schemes tend to exclude them, they are not able to enjoy benefits under these schemes. (More of this is discussed below under 'Technology Fund'). They can avail term loan from commercial banks; however, collateral requirements by banks pose certain problems. Units admitted that their proximity to bankers had enabled them to get loan easily.

Most of the units do not have product orientation. Although they are aware of export possibilities, small unit do not export. They are part of the value chain rather than focusing on value addition till garments making. Spinners are not weavers and weavers do not make garments, and so on. As small units do not enjoy benefits of completing value addition, they do not enjoy sufficient margin. As a result, TAU is not perceived to be an attractive proposition for small units.

Spinning mills in Coimbatore city face the problem of labor shortages. Apprenticeship arrangement could have helped them to get labor. At present, the duration of apprenticeship stands reduced to 6 months from 3 years. Apprentices have to be paid at the rate of Rs. 147 per day (including basic pay and other incentives and benefits). Shortening of apprenticeship duration, coupled with government stipulated higher wage rate per day, has forced the units not to rely on such arrangement.

Of late, these units tend to follow Scheme Labor. Under this, they bring labors from neighboring districts and provide them with accommodation and food. These labors are expected to work on shift basis. They receive a

portion of their wage just sufficient to take care of their day to day expenses. Remaining portion of their wages gets accumulated, which is given as a lump sum amount as the terminal benefits. This arrangement has found favor amongst mill owners and workers.¹

An important problem faced by small spinners is the power shortage. As there is no cluster formed for enabling spinning activities, small spinners are spread across in areas not notified as industrial area/estate. They overcome power shortage problem by having captive power generation, but at a higher cost that further reduces their margin. A few units carry out maintenance activities whenever there is power shut down.

Role of middlemen is very important for the smaller units and their presence indirectly affects TAU for smaller units. To procure raw cotton, they relied on middlemen, and also to sell yarn, they relied on middlemen. This problem is compounded by the recent export of raw materials. Units have complained that middlemen have hoarded raw materials in the wake of unprecedented rise in exports of raw cotton to countries like China and Pakistan. Anticipating higher price due to shortage of raw materials in domestic market, hoarding has now featured the supply. In recent time, these units could buy a bale of cotton (consisting of 170 kgs) at the rate of Rs. 28,000, which was costing Rs. 15,000 a few months back. High cost of input has reduced their margin and consequently internal accretion of funds.

Procurement of raw cotton and sale of yarn are so intertwined that it is difficult for small units to avoid middlemen. For instance, middlemen supply raw cotton on credit basis on the condition that these small units sell the yarn to them only. Due to the insufficient owned-fund to finance inventory holdings, small units tend to accept such obligations. As survival of these units largely depended on middleman, their economic viability, including TAU, get influenced by the presence of middlemen.

TAU enabling agencies: SITRA and SVPITM

There are two major agencies in Coimbatore, who have mandates to facilitate the TAU. One is, The South India Textile Research Association (SITRA),² and the other is, Sardar Vallabhbhai Patel Institute of Textile Management (SVPITM).³

While SITRA provides technology related advises, the SVPITM provides management related advisory services including techno-economic services pertaining to a project. The SITRA has memberships, whereas SVPITM operates on a model of sectoral management institute with a focus on developing management skills necessary for textile and clothing industry. Considering their activities, it could be seen that role of SITRA has a direct bearing on the TAU process, but that of the SVPITM has an indirect impact. SITRA has several in-house efforts to facilitate TAU other than sponsored activities, while SVPITM is largely confined to sponsored projects.

In particular, SITRA provides technology related services to its members in terms of research and development (R&D) support. These services are extended in the form of either in-house initiatives or consultancy services as sponsored by members. As for in-house initiatives are concerned, SITRA provides training with a due focus

1 These workers receive, on an average, Rs. 115 per day, inclusive of basic pay of Rs. 60, ESI benefits, and hostel accommodation.

2 SITRA is a link in the chain of government sponsored national laboratories, aimed to help textile industry to apply science to solve their specific problems. SITRA is supported by Ministry of Textiles, Government of India. For more details see, SITRA (2007), 50 Years of Growth of SITRA, Coimbatore: SITRA.

3 This is an autonomous institute under the Ministry of Textiles, Government of India.

on improving productivity and managing layout so as to reduce productivity loss, and conducts conferences and seminars on the themes relevant for textile units. They also undertake consultancy projects to solve a particular or day to day problems faced by sponsoring units. Implementation of statistical quality control system within the mills has been an important consultancy service provided by SITRA. They also advise on starting new units and modernization, and undertake techno-economic viability study of scrapping of existing machineries and new project, and diagnostic study on what ails a mill so as to identify areas for improvement. They also advise units as to how to scientifically organize mills such as optimum number of workers for various processes and frames.

Using their survey of productivity of firms, conducted once in 2 years, SITRA develops benchmarks for judging productivity of machines and labor. These reports also enable textile units to identify areas, departments, and operative categories that require attention for improving productivity. SITRA disseminates findings of such surveys to individual units that had participated in the survey pointing to the areas of deficiencies; publish them in a report format, and of late in CD-ROM with interactive features.

SITRA also periodically studies financial performance of firms and analyze inter-firm differences and contributing factors to it. It has developed software packages that provide solutions to improve productivity. Its other reports and publications provide useful information on the quality of yarn produced by firms of different size classes and provide suggestions as to how to improve quality, and optimally utilize materials, machines and manpower. These reports undoubtedly help textiles units to achieve higher level of efficiency.

As for facilities, SITRA has state-of-the-art lab facilities to test quality of cotton, fibre, yarn, and fabric. They have calibration instrument that improves quality of yarn too. They have a pilot mill with modern machines. Using this, they provide training to new workers, often at the instance of member units.

To facilitate technology adoption by weaving and knitting segment, SITRA had established 'Weaving Training Centre' in 2003. This centre houses two Rapier Loom; one imported and other developed by SITRA. This centre provides training to operate and maintain the loom, R&D and sample development, and assessing performance of yarns in the high speed of weaving, besides studying techno-economic viability of a project. It provides a range of services to decentralized power loom sector. To this end, it first started a 'Power loom Service Center' in 1974. At present, it helps this sector through government-sponsored centers spread across 16 regions. For designing, SITRA started a CAS centre in 1995. It now has four CAD centers for design development, reproduction of design, fabric simulations, and training in designing. In order to help knitwear manufacturing units, SITRA started Knitting Division in 1976, and established 'Knitwear Service Centre' in Tirupur in 1991. Through this centre, SITRA helps units to test quality of knitted fabrics and garments, analyze fabric faults, assess performance of hosiery yarns, and conduct training program on technical problems.

While SITRA has a vital role in the TAU amongst textile units as a whole, it has an inherent disadvantage that hinders small firms from enjoying its services. Small units cannot become members of SITRA because seeking membership requires a minimum number of 6000 spindles (earlier this was 8000 spindles). As its services are mostly members-centric, it automatically keeps out small units. SITRA has the practice of charging more for the services rendered to non-members including small units. This has deterred small units from seeking services of SITRA.

For a long time, SITRA has been supporting its member units, which by virtue of its original design, happen to exclude small units. To meet the varying requirements of small units, SITRA extends services to such units,

provided they are Technical Services Card Holders, which are issued to small units upon payment of an annual membership fees. There are about 100 card holders on an annual basis. These Technical Services Card Holders are entitled to enjoy SITRA's facilities for testing yarn, fibre and fabric, but do not enjoy SITRA's consultancy services on priority basis.

Despite these efforts, one cannot say that SITRA has made significant contribution to TAU amongst small units. Small units surveyed did not appear to have opted for SITRA's services because of the prevailing perception that only member units could avail them. Facilities and services of SITRA could potentially reduce cost of operation for small units. This is an area that needs to be addressed immediately.

Technology Fund:

Since 1999, textile units have been provided with technology fund, known as Technology Upgradation Fund Scheme (TUFS), with three-pronged government incentives. They are (a) Reimbursement up to 5% of the interest charged by lending agency on the project involving technology upgradation. This scheme is in force since 1999-2000; (b) For SSI units, 15% capital subsidy (earlier 12%) under the scheme known as Credit Linked Capital Subsidy (CLCS) with effect from 13 January 2005.

Units can enjoy any of the above two from January 1, 2002. In lieu of the above two, with effect from 6th November 2003, units could enjoy 20% capital subsidy subject to the maximum capital subsidy of Rs. 12 lakh and capital ceiling of Rs. 60 lakh. The ceiling was raised to Rs. 20 lakh and Rs. 1 crore respectively with effect from 13 January 2005.

In addition, for certain textile processing machinery, more incentives were available to the tune of 10% capital subsidy over and above the 5% interest subsidy. Of course, this extended incentive was in force between 20/04/2005 and 31/03/2007.

The TUFS covered project involving purchase of new machinery by a new or existing unit. This was not extended to second hand machines bought from domestic market. However, certain relaxation was made in respect of imported second hand machines.

Although originally earmarked for facilitating TAU, TUFS has not been very effective from the point of view of small units, which can be attributed to size. In cotton ring spinning system, for instance, TUFS covered units having minimum economic size, defined as 25,000 spindles. This cut off was relaxed to include up to 12,000 spindles, depending upon their track record of performance as well as management. Minimum economic size for applying for TUFS was subsequently reduced to 8000 spindles with effect from October 15, 2004.

While reduction in minimum economic size is commendable, as it has facilitated more units to enjoy TUFS benefits, still it has not found favor amongst small units. A typical small firm would normally have 2000 spindles, that too mostly second hand. Such size class falls outside the scope of TUFS, and so smaller units could not avail its benefits. In fact, as profit was earned by units of different sizes, limiting the scope of TUFS to certain minimum economic size was questioned by a few smaller units.

Furthermore, insistence on collateral by lending agencies had generally favored already well off units and not small units. Entrepreneurs of small units, but not having required collateral, could not opt for loan facilities available under TUFS, although they had genuine desire for TAU.

Box 13.2: TAU in Leather Industry: Case Study of CLRI's interventions

The leather industry occupies a prominent place in the Indian economy in terms of export earnings and employment. The transition of the leather industry from an exporter of raw and tanned hides and skin to a major source for a range of value added leather products is a remarkable story of adaptation to market requirements as well as of overcoming technological barriers. The leather footwear industry is seen as one of the major growth drivers of the leather industry.

The leather sector itself comprises a complex grid encompassing artisanal, tiny, cottage, small, medium and large enterprises. A very substantial proportion of the workforce in this sector is engaged either in the decentralized primary industrial segment or in the micro and small enterprises.

The leather value chain subsumes three distinct processing stages, each with varying requirements of material, capital and labour inputs. These range from the recovery of the basic raw material namely of raw hides and skins to the slightly more capital intensive operation of tanning and finishing of the hides to the final stage of production of leather goods which is relatively more labour intensive process. While in some regions and in certain clusters the small and micro units are linked to the large organized units through outsourcing and have had the benefit of accessing new technology, elsewhere there is no such linkage with the small scale sector. The latter along with the artisanal sector continues to operate along traditional lines and cater to the segmented domestic market. The small and micro artisanal units in fact account for close to 75 percent of the total leather production in India. However they are unable to realize their full potential owing to a variety of factors ranging from constraints of finance, problems of sourcing adequate and quality hides and above all to lack of access to appropriate modern technology, among others. Liberalization and trade reforms and the resultant lowering of tariffs and the removal of import restrictions has impacted the small scale and the unorganized sector much more adversely than the larger organized units.

Another major problem faced by the micro and small scale shoe manufacturers was the growing scarcity coupled with high prices, of raw materials. Changes in trade policy were also instrumental in compounding the crisis and thus threatening the very existence of the micro and small scale sector. India's failure to make the most of the opportunities in the global leather trade could be attributed to the use of suboptimal technology practices in the manufacturing chain.

The sourcing and collection of primary raw material namely raw hides and skins is almost entirely a decentralized activity. One of the major problems faced by the leather industry is the inadequate supply of hides. Though India accounts for largest livestock population, yet the Indian leather goods industry has barely 3 percent of the global market share. Raw material crunch or the insufficiency of quality hides and skin is among one of the factors in slowing down the growth of this sector. The raw material insufficiency is not unrelated to a combination of conditions ranging from cultural factors that discourage displacement by slaughter of large animals such as cattle and buffalo to the timely non recovery of fallen animals, improper flaying techniques and transportation of raw hides to tanning centers.

About 8 lakh persons or roughly 1/3rd of the aggregate workforce in the leather sector as a whole, are associated/ involved with primary activities namely of the management of dead animals, flaying, collection of hides and skins and preservation. A recent study by a group of scientists from CLRI suggests that of the 9 million fallen animals not recovered or utilized even if 50% of it or 4.5 million fallen animals are recovered and utilized to the full it can provide additional employment to 45000 people apart from the potential of enabling them to secure higher earnings.

Flaying of dead animals or carcasses has traditionally been an occupation carried out by the most marginalized sections of the society usually the various sub-castes of the dalit community. In a situation of the absence of flayers the fallen animal was often thrown into some remote corner of the rural settlement and allowed to rot. This was a dead loss. Even when recovered the dead animal was often dragged before it was flayed. This together with improper defective flay cuts on the carcass seriously affected the quality of the raw hides produced. This situation warranted a serious technological intervention.

Carcass Utilization Centres

To address this problem and as part of NLDP, CLRI had even as early as 1992 begun working on an appropriate technological package for the recovery and utilization of the fallen carcass. Given the dispersed nature of the animal holdings arranging for dead animals to be transported to any centralized location for appropriate utilization of the carcass was clearly not a feasible proposition. The technology had to be sufficiently downsized for it to be suitable and acceptable for rural needs.

By the time the Leather Technology Mission (LTM) was launched by the Government of India in 1995 under the overall coordination of CLRI, a complete downsized technology package for the recovery and subsequent utilization of the byproducts of carcass was in place. The composite package developed by CLRI in association with the Centre for Technology Development and the Centre for Mechanical Engineering Research Institute comprised of the following: (a) scientific flaying system to ensure minimal defects through flay cuts of the carcass in order to obtain better quality hides and (b) rendering technology for carcass to enable production of value added by products such as meat meal, bone meal and tallow. This package also included provision for utilization of rumen contents and effective disposal of effluents. Between 1995 and 1997 CLRI, as part of the LTM, set up 15 carcass utilization centres all over the country. These centres were identified and selected on the basis of certain objective criteria such as the animal density in the region, natural mortality rates, motorable roads or access to carcasses, artisanal population, poultry and piggery population and market outreach, among others. To sensitize the flayers and other stakeholders about the inherent advantages of this new technology the first demonstration centre was set up at Bakshi-ka talab near Lucknow. The initial diffidence and reluctance on the part of the flayers gave way once they could see for themselves the positive advantages of these new developments. The scientists also gained by their interaction with the potential users which in turn helped them to adapt the technology to meet the specific needs of the local users. Between 2004 and 2007, 16 additional centres were set up as part of the HRD mission on leather. Thus presently there are in all 31 such carcass utilization centres. The major concentration of these centres is in the north Indian states, regions with relatively high density of bovine population. Out of the 31 units it has been claimed that about 60 % of the units are running fairly successfully.

In 1997/98 the initial investment for setting up a carcass recovery and utilization centre was Rs 9 lakhs. This has since gone up to an amount ranging between Rs 12 to 15 lakhs per centre. On the basis of empirical data, it was estimated that a minimum of 4 animals per day would be required for each unit or centre for the project to be bankable or economically viable. It was estimated that with six animals per day, the pay back period would be no more than three and half years. According to one of the senior scientists of the CLRI who was associated with this project, the market value of the various products including the hide from each animal was close to Rs 1000. With a minimum of 4 animals it was possible for a unit to obtain a gross income of approximately 4000 rupees per day. The running costs were said to be roughly 50 percent of the gross income. Further it was claimed on average each unit could provide employment to about 20 persons.

In an attempt to widen and broad base the reach of this technological intervention, CLRI also came up with an innovative district based technology delivery system through a network of fallen carcass recovery centres. The

first such centre has been located in Raigarh in Madhya Pradesh. Designated as “SECURE” (Strategic Expansion of Carcass Utilization for Rural Employment) this project was funded by Ministry of Rural Development.⁴ It involved the setting up of a mother unit to which were linked several satellite units across the district. The latter feeding the former with the raw material after preliminary processing. Thus flaying was done at the satellite centres while all other processing was done at the mother unit.

Other Critical issues relating to this project

Since most flayers belonged to socially and economically disadvantaged groups, usually from the BPL category, they were initially in no position to either raise the necessary capital required for these units or even to manage the running of these units. The question of management of the assets and the marketing of carcass by-products thus, was of critical importance. In fact CLRI had evolved various viable models of management suitable for the specific rural conditions. These included (a) local enterprises managed by cooperatives of flayers and artisans, (b) rural enterprises managed by state agencies (such as KVIB) or NGO's, (c) District networked recovery centres managed by professional NGO's and (d) Network of fallen carcass recovery units managed by private sector or corporate houses.

Presently most of the operational centres fall under category 'a' or 'b'. One of the critical lessons learnt from this experience by the CLRI is the importance of professional management especially in the initial or formative phase of learning and consolidation⁵. A well streamlined system of networking for sourcing carcasses and an appropriate marketing outreach system are indispensable for ensuring the viability of this experiment.

The other major problem that has confronted most carcass utilization units and which affects the viability of these units is the issue of collection rights of dead animals or carcasses. There is presently considerable inter-state variation with regard to legal position on this matter. In some states the rights have been vested with the traditional community of flayers while in others the right vests with state or quasi-government bodies like the municipalities or the zilla parishads. The latter in turn auctions the collection rights to the highest bidder. This system encouraged middlemen traders and contractors at the cost of flayers. Keen competition among the middlemen to secure the license also had effect of pushing up the license fee, thus effectively shutting out the flayers from this enterprise. Many of them had no option but to work for a pittance for the licensee. There is an urgent need for intervention. There is a compelling need for uniformity across states in so far as rights of collection of dead animals are concerned.

These rights need to be vested with cooperatives of genuine flayers⁶.

- 4 Very recently the Government of India has sanctioned the necessary grants for the location of a second District based carcass recovery centre in Rae Bareilly district of U.P. The state government has already allotted the required land for setting up 15 satellite units and three mother units. UP Khadi and Village Industries Board will provide the administrative and managerial support, while CLRI will provide the technical support and help run the project.
- 5 The Kalyani carcass recovery centre appeared to have done exceptionally well attaining a production target at one stage of as many as 15 carcasses per day. This was largely because of the initiative and drive of the then manager of the unit. This unit is being managed by KVIB. Since his departure there is apparently a distinct slackening in the performance level of this unit. The case of the Masvanpur (Uttar Pradesh) unit also bears special mention. This is clearly one of the better performing units and is often held up by CLRI as a role model for other carcass utilization centers. This is to a large extent the outcome of the exceptional initiative and entrepreneurial ability of Mr. Mohanlal. As one who also happened to belong to the traditional community of flayers he was able to network successfully to take advantage of the economic opportunities that this scheme provided. He managed to set up a cooperative society of flayers and artisans with 51 members to oversee the management of the unit.
- 6 The Raigarh experiment in M.P., the first district based network initiative for carcass utilization, also faced major obstacles at least initially because of the resistance from powerful private interests. The problem was mitigated later following the cooperation of some of the dominant commercial interests in the hide's trade into this model.

The Kolhapuri or Athani experiment

This is a remarkable story of how modern technology has helped traditional skills gain a new lease of life and usher in a major socio-economic transformation. CLRI's initiative in this direction is noteworthy.

Athani, about 200 kilometers from Kolhapur in western Karnataka, is home to the renowned skilled artisans of the famed 'Kolhapuri' sandals/footwear. There are in all about 1200 families belonging to the socially disadvantaged samara caste who have been pursuing this traditional craft for centuries. The elegantly crafted footwear that they manufactured slowly found a niche market in major metropolitan centres thanks to the efforts of some enterprising Kolhapur based entrepreneurs. However poor quality of the leather and lack of standardization adversely affected the sales of their products. Rejection of a large consignment of orders from Europe owing to poor quality spawned a major crisis in this artisanal trade leading to the impoverishment of many hundreds of families.

It was at this stage that CLRI stepped in 1995 to sensitize the local artisans to modern and scientific methods of production ranging from tanning of leather to the various processes in footwear making, including designing. It required a lot of perseverance and effort on the part of the CLRI technical staff to overcome the proverbial distrust and skepticism of the artisans towards change. Through sheer demonstration the scientists were able to win the artisans over to the need for change. Thus the process time for tanning was reduced from 35 days to 15 days and the yield was higher by 40 %. The quality of the leather so produced was distinctly superior. Following the success of their intervention in tanning, the CLRI team moved to provide the necessary support for upgrading the skills of the local artisans in the various processes involved in footwear making. A common facility centre with the essential modern machines was set up to enable the artisans to access modern technology. The artisans were also exposed to design innovation and standardized patterns with the help of quality lasts and templates etc. The outcome of all these changes willingly accepted by the local artisans has enormously improved the productivity, quality of the products and alongside the market value of the 'Kolhapuri' brand of footwear. CLRI in association with ASCENT (Asian Centre for Entrepreneurial Initiative), a Bangalore based NGO has also helped the local artisans in providing the much needed market linkages. In order to enhance the marketing potential, ASCENT also helped the artisans to go in for branding of their products. "Toehold" was the brand name chosen for a range of hand-crafted footwear from Athani. They have also developed a website featuring the entire range of footwear products for sale, enabling customers to place orders online. ASCENT has also helped the woman artisans in Athani to form themselves into SHGs with a view to encourage savings and also to overcome the problem of capital required for consumption and production. This intervention by CLRI along with ASCENT in Athani has been largely successful precisely because of its integrated and broad based approach to the problems of the artisanal sector and bear replication in other clusters across the country.

Development of Cleaner and eco friendly technology for the tanning sector

As of 2006 -07 there were in all 2091 tanneries in India of which 1831 were operational. About 38% of these are located in Tamil Nadu. West Bengal and UP are the two other major tanning centres. Roughly 100 tanning units are said to be in the medium to large-scale category. A large majority of the tanneries are small scale enterprises. Environmental degradation consequent upon the discharge of effluents became a major issue especially after the Supreme Court came down heavily on the polluting tanneries by ordering their closure. CLRI came to the rescue of the industry and in association with NEERI evolved a basket of technologies in a record 12 months to ensure reduction of contaminated effluent discharge. This was followed up by CLRI providing the

necessary technical support for the setting up a number of CETPs (Common Effluent Treatment Plants) and ETPs in tanning clusters. The costs of these plants were borne by the more established larger tanneries. This was possible because of the linkage between the large and small. Currently almost all the tanneries in Tamil Nadu are linked to effluent treatment plants. Alongside, in the face of stringent international standards for cleaner finished leather, CLRI has developed a whole range of eco-friendly green technologies for use by the industry. The adoption of cleaner process technology has implied enormous gains in terms of cost reduction in treating effluents, savings in chemicals apart from significantly enhancing the quality of the leather. This technology is also being extended to Bengal and Punjab, the two other major tanning clusters. This is a good example of equitable distribution of the benefits of cleaner modern technology.

Skill Upgradation programmes for leather artisans

As part of the LTM and later HRD mission, various programmes to impart training to leather artisans have been initiated in various parts of the country. Many of these programmes though overseen by CLRI are administered by other specialized agencies like FDDI (Footwear Design and Development Institute), Noida, CFTI (Central Footwear Training Institute) etc. Thus as part of cluster development programme, training in new methods and techniques was imparted to 4000 leather artisans in Jodhpur, Jalore and Barmer. This programme was administered by FDDI in association with RUDA (Rural Non Farm Development Agency), Jaipur. A similar programme was conducted by CLRI for targeting 4500 artisans in Abohar, Malot Muktsar and Patiala in Punjab.

CLRI also initiated skill improvement programmes especially for women artisans. Thus 200 women in Kundrankudi in Tamil Nadu were identified and trained in leather goods manufacturing. Similar programmes were conducted in Vijayawada, Kurnool and Guntur. With the help of the local NGOs, SHGs of these women artisans were formed. CLRI also helped establish 7 mini CFCs (Common Facility Centres) to enable the women artisans to access modern technology available at these centres. NID (National Institute of Design) also stepped in to sensitize these women to innovative designing methods. It is said that so far about 2500 women have been trained in product making and many of them have since turned entrepreneurs.

CLRI intervention in Agra shoe cluster

Agra is the largest cluster of leather artisans where approximately two lakh artisans are engaged in shoe making in the unorganized sector. Realizing the importance of intervention here, given the sheer scale of production much of it for the domestic market, CLRI had drawn up an ambitious plan for technological and skill upgradation. Phase I of this plan was launched in December 2005 with the setting up of a field office. In this initial phase about 60000 shoe makers have been enrolled and sensitized to the mission objectives. As part of this phase of the programme detailed skill mapping of these 60000 artisans has been completed. About 210 trainers were provided intense training by CLRI on quality production of footwear⁷.

In the light of increased competition from cheaper imports and the scarcity of raw materials and the distinct possibility of exports of finished leather, there is a certain urgency of a sustained intervention in unorganized sector with respect to TAU.

⁷ Structured training programme for various skill sets in Phase II has been drawn up. CLRI is awaiting sanction of funds for carrying out this programme. In Phase II of this programme there is provision for setting up of state of the art Common facility centres which could be accessed by artisans in batches. These CFC's would also serve as training centres where the artisans would be exposed to modern methods of shoe making.

Access to Marketing

13.33 Access to marketing is a major constraint for enterprises in the unorganised sector. This sector produces a large proportion of industrial output in the economy and yet, the sector becomes immediately vulnerable in response to volatile, fragmented and shifting demand that is characteristic of national and international markets today.

13.34 The unorganised sector's marketing issues are distinct from those that the organised sector faces. First of all, there is no clear concept of 'advertising', as most often, the customer base is the local population or trader or any rate, the local facilitator. On very few occasions is the producer actually thinking in terms of 'targeting' a market and building marketing strategies around that. In most cases, anyway, the formal markets as available in the cities or towns are too far for the producer in the informal sector to be in a position to influence it or target it consciously.

13.35 Second, while this might be true for a large number of producers, it is also true, as earlier chapters on subcontracting and value chain relationships in the unorganised sector showed, that a significant proportion of unorganised sector output reaches international and distant national markets. Institutional arrangements for marketing are thus very crucial to allow unorganised sector producers to link up with markets, whether local, national or international. However, the institutional marketing requirements of different kinds of industries are different.

13.36 Third, many producers in the micro/small business environments are in remote rural areas or high population low income urban areas, from where accessing markets is rather difficult. Generally, transport costs add a further element to pricing and they seriously limit the competitiveness of the product or service while hampering physical access to the market place and the opportunity to trade locally. Access to affordable and reliable transport is therefore very critical in the case of unorganised sector enterprises.

13.37. Fourth, as small scale producers, their trading is acknowledged only as part of the informal sector; consequently it has been under-reported and un-recorded

for the most part. As a consequence, many of these producers are not registered and therefore have not declared themselves as an economic entity and are not recognised as users of market information. Even if there are industry level market intelligence efforts and information, the system very often does not allow access to this information for such producers. It might be therefore necessary to strengthen producer registration and enterprise recording systems, while training producers in the use of marketing information in formal production planning.

13.38 Fifth, the limited market potential within a limited population generates limited sales that do not stimulate bulk purchasing. Input costs are high and consequently the final product price is not always competitive. Product quality also remains undependable and uncertain. Also, micro/small entrepreneurs generally use household grade equipment, implements and utensils in production. Experience indicates that the production environment limits the ability to scale up production to commercial quantities. As a result, customers are forced to find suppliers of better quality. The sole trader small entrepreneur is faced with a double dilemma often – production is a time consuming operation and she/he has little time for marketing. The international demands for quality assurance and the emergence of more competitive producers have also eroded these markets.

13.39 While these are the generic marketing problems faced by unorganised producers in general, it is necessary to distinguish broadly between sectors based on traditional structures of production and hereditary occupations such as handlooms, handicrafts, silk and so on and non-traditional sectors such as the entire range of metal and petrochemical based industries, machinery and equipment, both electrical and non-electrical. The organizational structure of these two sets of sectors are very often different, with the former broadly falling into the category of 'livelihood' activities and the latter into the 'enterprise mode'. It must be emphasized, however, that this distinction is not necessarily true in all cases, but we have seen in Chapter 1 that since the latter set of industries are associated with greater capital intensity, they also tend to be larger enterprises.

13.40 Given this broad distinction, the next section presents a brief typology of sectors based on their organizational characteristics and marketing issues that they face.

Sector Typology and Marketing Issues

13.41 As mentioned above, the first category of industries consist broadly of what is also called the village and small industries (VSI) sector, comprising groups such as handloom, handicrafts, coir, sericulture, khadi and other village industries. Typically, such industries are characterized by largely household, rural enterprises which work with family labour, sometimes in clusters that have existed for a very long time and sometimes isolated. Usually, they are extremely diversified in terms of products and produce for local needs as well as for larger, (usually urban) markets, very often international markets. Each region is known for a specific product that is unique in design and style in these industries.

13.42 The form of production in these sectors gives rise to distinct marketing issues. Since a large part of production is home-based and dependent on family labour, the craftsmen are not in a position to market the goods themselves. There is a severe lack of market knowledge as well as active market experience that prohibit them to control and modify production patterns in response to changes in demand. Very low incomes, lack of working capital and use of obsolete machinery and equipment very often result in a high dependence on outside structures such as middlemen and traders for a variety of needs such as credit and raw material supply as well as for marketing channels. There are also seasonal and other fluctuations in the domestic and international markets and that most producers in these sectors do not have direct access to information on these shifting markets, and learn about changes in demand only secondhand through middlemen or contractors. Further, there may be market niches where diseconomies of scale exist and where craft production might be profitable, but access to these markets is essential. An institutional structure that provides marketing channels to these enterprises that can take care of all these problems becomes essential, such as the development of co-operatives, larger para-statal organizations that procure products from individual

producers or co-operatives at favourable prices, organizations that help keep track of changes in markets, and so on. Below, we present case studies of experiences in two such industries, handlooms and handicrafts. Before that, we look at the marketing issues of the second group of industries mentioned above.

13.43 The second group consists, in the Indian case, of a whole range of industries that are metal, mineral and petrochemical based and also those that manufacture equipment of various kinds, involving a very high range in terms of technology, product range and supply to a wide range of markets. A large part of such production takes place in the establishment mode, and involves the acquisition of outside skills, not necessarily hereditary. These industries have access to machinery, and improved tools and designs. They also produce intermediate as well as final products for a variety of customers and markets. In many of these industries, value chain linkages are high and the smallest enterprises produce output that is used by larger enterprises, where the marketing is taken care of by the linkage with the larger enterprise. Here, very often, the issue is not the availability of markets per se but the uncertainty of contracts, and irregularity as well as fluctuations in payments in response to market fluctuations. Well known examples of such production are in automobile components, electronic components and so on.

13.44 However, a large part of unorganized sector production takes place in such industries without necessary linkages with large firms that are completely dependent or which might only be dependent to a certain extent. Here, the marketing skills, access to markets as well as access to information of the entrepreneur are the crucial aspects that determine the success of marketing. Further, enterprises as a whole in many of these sectors suddenly face the brunt of external shocks such as changing conditions of imports, increase in raw material prices, etc which affect their profitability and marketing prospects. In other words, it is the inability of isolated enterprises to achieve economies of scale in production, marketing as well as exert influence over external conditions that becomes the biggest hurdle to maintaining stable markets. Also, entrepreneurs are very often in a situation to be able to be far more active on the marketing

front if they are trained in marketing. In such cases, what is required are institutions that will solve to some extent diseconomies of scale and marketing, perform the functions of market research, lobbying and also provide services to enterprises such as marketing training which are important. This role can be played by industry associations and industry-specific state promotional organizations which organize fairs, training programmes and also function like collective organizations that serve the marketing needs of the industry as a whole. An interesting example of such efforts is that of the different associations in the leather industry such as the Central Leather Research Institute and the Council for Leather Exports which work in tandem with different manufacturers associations in the leather industry.

13.45 Given this broad typology that separates the marketing needs of what might be broadly distinguished as the traditional and establishment based sectors in the unorganized sector, it is clear that in both cases, enterprises have to be working as groups, whether in the form of co-operatives or through industry associations. The difference might lie in the fact that the development of effective marketing institutions might need to provide stable markets as well as minimum incomes allowing producers to earn a decent living in one case, whereas in the other, marketing interventions have to allow for channels that result in both productivity as well as firm growth, allowing a graduation to larger size.

13.46 Below, we present four typologies of markets in the unorganized sector based on specific marketing parameters such as volume of transactions and value of sales.

First, Low Volume/Low Value Markets: Typically daily use village products like clay pots, traditional leather footwear (although the Mojari project experience has been different), beaten metal products, coir and straw products, non-design handloom products, etc fit the category. For these products, for the specific market, not much effort needs to be made. However, if these are to be positioned higher on the value chain, significant pre-marketing efforts like design, product development and technology support will need to be made. Even for the

products, as they exist, market support will be needed more in the nature of developing the marketing infrastructure like the village haats. There is also a need to look at the issue of legitimizing these haats/haatwadads in urban areas, where the entrepreneur is constantly under the threat of being evicted or getting his produce confiscated by municipal/police authorities.

Second, High Volume/Low Value Markets: Usually in the case of several primary producers engaged in the same commodity type exists, the product is more appropriate for such a market. Super markets/hypermarkets engage sub-contractors to procure from these clusters. The retail revolution currently being witnessed in the country with enormous investments will see this market segment growing significantly. Big hypermarkets/supermarkets like Big Baazar, Sabka Bazaar etc are springing up in many cities. Often there is no value-addition done at the primary producer level. Other times, the prototypes are provided by the procuring agency. Most of these products are labour intensive.

Third, Low Volume/High Value Markets: This segment caters to lifestyle products/handicrafts and high quality fabrics. The handmade process is packaged as the products USP. High levels of investments are made in design, product development and quality control for these products. The primary producer is more like a daily wage earner in this arrangement like products procured by Anokhi or Fabindia, which are lifestyle fabric, traditional products and apparel-retailing store with local and international markets. These products have a high metro/export orientation and are often branded.

Fourth, High Volume/High Value Markets: These are emerging markets where traditional manufacturing is being transformed into machine manufacturing. The powerloom sector is a good example of products relating to this market segment. Use of technology helps produce in volumes that are required for mainstream markets. With the ushering in of a retail revolution in India, this market too, is expected to flourish in the future.

13.47 Following is a more detailed look at some of the institutional arrangements for marketing that exists for the unorganised sector in India.

Marketing Infrastructure for the Unorganised Sector

13.48 Currently, marketing infrastructure for selling of goods and services by the enterprises in the unorganized sector can be classified into the following categories:

13.49 **Legally recognized, haats and shandies**, are organized on a periodic basis (weekly, monthly, annually) at fixed venues like the ubiquitous Shanichar wada (organized every Saturday in almost all towns and villages), Mangla Haat in Kolkata (half a day on every Tuesday). Some like the Pushkar Mela, are organized annually, and are linked to religious festivals. Beneshwar Mela in Southern Rajasthan attracts thousands of tribals each year in a religious cum marketing festival and lasts for several days. Some of these like the Nagaur/Sonepur Cattle Fairs are specialized, for marketing only specific products and commodities. The Surajkund Mela focuses on handicrafts and is organized annually. These are mostly regularized and legally recognized. Mostly the enterprises in the unorganized sector dominate these events and good business is transacted through these events. However, not much attention has been given to these in terms of supporting and strengthening the infrastructure and sellers presently sit on the pavements and sell their products. No thought of formal kiosks, warehousing support, etc have been considered.

13.50 Some specialized **dedicated permanent infrastructure like Dilli Haat** has also come up in the last decade or so, which has been set up to help the unorganized sector (esp. crafts) to sell their products round the year in metropolitans like Delhi. This idea has picked up and in many state capital/other towns, similar infrastructure are being developed. In principle, these permanent facilities, largely promoted by the Development Commissioner of Handicrafts, are meant to support unorganized sector enterprises, but often, the benefits are cornered by middlemen and traders.

13.51 Further, each state has also set up its **Handloom and Handicrafts Emporia**, in Delhi and in other cities.

These emporiums sell specific products from their state. Some of these state handicrafts marketing outlets are Rajasthali (Rajasthan), Gurjari (Gujarat), and Utkalika (Orissa). Specialized state handlooms emporia are like Avantika (Madhya Pradesh), Phulkari (Punjab), etc. Others in this category include state level/national level emporiums like Cooptex, CCIE (Cottage Emporium) in which state cooperatives market their produce. KVIC is another very large market support agency with over 7,050 outlets across the country.

13.52 Another category is **Annual Trade Fairs** like in Delhi, and other metropolitans in which products from the unorganized sector may be in minority. In the Delhi India International Trade Fair, the unorganized sector markets its products in the SARAS pavilion that is sponsored by the Ministry of Rural Development.

13.53 **Private Sector and the NGOs** too organize periodic events to support marketing of the unorganized sector products. Some private Sector organizations like Fabindia, Anokhi, ZEBA, and several exporters etc work exclusively with unorganized sector enterprises. Some exporters also adopt villages, with whom they have established a buy-back arrangement.

13.54 Having gone over the broad typology of sectors and their differing marketing needs, and the institutional arrangements for marketing, the following sections provide case studies of the experience, institutions and problems with marketing in the handloom and handicrafts sectors in India⁸.

The Handloom Industry – Issues in Marketing and Existing Institutions

13.55 In India, handloom weaving is still largely a household rural enterprise, with the exception of Maharashtra. It is very common for the weaver to weave at home, drawing on the labour of the family members. It is extremely diversified in terms of products ranging from coarse cloth for local needs to a range of medium and fine fabrics for a larger, (usually urban) market. Each

⁸ The entire VSI have been placed under the purview of the following organizations: the Small-Scale Industries Board, the Khadi and Village Industries Commission, the All-India Handicrafts Board, the Central Silk Board and the All India Handloom Board. These organizations have been implementing a series of policies not only to help develop their respective sectors, but also to help them in marketing.

region is known for a specific product that is unique in design and style. There are independent weavers, weavers organized into cooperatives and those working under master weavers.

13.56 The market for handloom products is basically of four kinds: (a) where handlooms are made for household requirements as in the northeastern states, (b) the rural market where weavers do the marketing themselves, (c) the distant domestic market, largely urban, which is beyond the reach of weavers, and (d) the export markets.

13.57 The primary objective of the government's policy on handlooms since 1950 was the production of cloth for the masses in sufficient quantities and at reasonable prices. A range of cloth was reserved for production in the handloom sector, especially controlled or *janata* cloth. Moreover, the mill sector was forbidden in the 1950s to install new looms to increase their capacity. In 2000, the Textile Policy recommended that the least skilled weavers should be shifted to semi-automatic powerlooms. Government subsidies further dictated including reservation of 11 varieties of cloth for the handloom sector and cash and credit assistance to primary cooperatives and state-level apex bodies. There is a lot of evidence of bogus co-operatives that have cornered a large share of government credit. There are further flaws in the government policies. The *janata* cloth scheme de-skilled weavers by making them shift to poor quality cloth.

13.58 Further, only 30 percent of the weavers are covered by weavers' co-operatives. The steep increases in the cotton yarn prices also proved to be a dampener. This was because, in the 1990s, export-oriented spinning mills were set up, which enjoyed advantages over the spinning mills in the domestic tariff area, because of which there was a steady increase in yarn exports and a steep rise in yarn prices. The handloom industry is largely home-based, with labour inputs from the entire family.

13.59 Typically, under the cooperative structure, raw materials come from the cooperative, with capital support from the state. The final product is also supposed to be marketed by the state-owned apex marketing bodies. However, all weaver members do not have continuous employment, either due to lack or inefficient use of working capital within the cooperative or due to irregular

yarn supplies, or due to collapse of the marketing agencies. This compels weavers to turn to master weavers, who makes the necessary investments and also market the products. Under the cooperative structure, there are hundreds of primary weaver cooperatives, which are integrated into an apex centralized marketing body. These apex agencies typically had showrooms in all big cities, providing an important link between the producer and the consumer for several decades after independence. However, since the mid-1990s, most of the apex handloom marketing bodies have been unable to respond flexibly to the market or even to capitalize on traditional products due to systemic failure and financial irregularities.

13.60 Handloom marketing initiatives have been influenced by other trends as well. The Festivals of India initiated in the early 1980s, created considerable visibility of Indian handlooms and handicrafts in the world market. This led to a flurry of largely revivalist attempts to systematize and harness craft production taking into account the new demands.

13.61 Over the last decade and a half, the retail market in India has undergone considerable change. With the entry of a host of goods produced by transnational corporations into the Indian retail market, the rules of the marketing game are changing fast. This extends not only to the style of presentation, but also the articles sold. This changing market scenario has tended to see the traditional Indian hand-woven fabric (or handlooms) and other artisan products as peripheral to, rather than a part of daily use, leading to a mismatch between the large-scale production structure and the narrow market.

13.62 It paved the way for the emergence of a significant number of new players, in addition to the earlier structures of "master weaver/cooperative/government emporia". These range from big chain retail stores with a modern retail format to well-established traditional chains, which continue to expand. There are also smaller retailers in small towns, and NGOs seeking to set up market links for the producers they worked with. Some are hugely successful, others are still trying to find their feet. Some target specific market segments through a cooperative structure, others are private entrepreneurs engaged in handloom trade.

13.63 Today, the industry faces a number of challenges. One dominant perception of the handloom industry has been that it is traditional and restricted to a niche market. For example, dealing with handloom fabric raised myriad problems for the modern retailer, since handlooms do not conform to mass production norms. This has also fuelled the perception that handloom fabric suits only a limited, elite niche market and that it should build on the brand equity of traditional identity label to target overseas markets as well. But handloom is quite versatile and there is a huge diversity within the handloom product.

13.64 Another dominant perception is that the weaver is risk-averse and incapable of innovation. But this is untrue. They are actually capable of major shifts in scale, product development and markets, seen where there is better state patronage to this industry now. For instance, the Tamil Nadu government earmarked Rs. 78 crore towards providing free electricity to handloom and powerloom weavers in 2007-08. Under the scheme, 1.35 lakh handloom households and 90,000 powerlooms were covered. As part of welfare measures for the weavers, the state government increased the old age pension amount for handloom weavers from Rs. 200 a month to Rs. 400.

The Handicrafts Sector: Marketing Issues and Institutions

13.65 Handicrafts are mostly defined as items made by hand, often with the use of simple tools, and are generally artistic and/or traditional in nature. They are also objects of utility and decoration. Handicrafts can be classified into three categories: (a) Consumer Goods, (b) Processing Industries, and (c) Decorative Items⁹. The craft or handicraft sector is the largest decentralized and unorganized sector of the Indian economy, and is among India's largest foreign exchange earners. Handicrafts are distinct from village or small-scale industries because handicraft products and processes differ widely from region to region.

13.66 The handicrafts sector is a home-based industry which requires minimum expenditure, infrastructure or training to set up. It uses existing skills and locally available materials. Inputs required can easily be provided and these are more in terms of product adaptation than expensive investment in energy, machinery or technology.

13.67 The craft sector contains many paradoxes. Artisanal contribution to the economy and the export market increases every year and more and more new crafts-people are being introduced into the sector - especially women - as a solution to rural and urban unemployment. At the same time mass-produced goods are steadily replacing utility items of daily use made by craftspeople, destroying the livelihood of many, without the concomitant capacity to absorb them into industry. However, with ever-increasing competition from mill-made products and decreasing buying power of village communities due to prevailing economic conditions, artisans have lost their traditional rural markets and their position within the community. There is a swing against small scale village industries and indigenous technologies in favour of macro industries and hi-tech mechanised production. Traditional rural marketing infrastructures are being edged out by multinational corporations, supported by sophisticated marketing and advertising. The change in consumer buying trends and the entry of various new, aggressively promoted factory produced commodities into the rural and urban market, has meant that craft producers need more support than ever if they are to become viable and competitive.

13.68 The craftsmen and women all over the country face hurdles in all aspects pertaining to their production cycle - from lack of capital to invest in raw materials, availability of raw materials itself, lack of understanding of marketable products in terms of designs and quality that sells, and finally, the difficulty in accessing the more

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- 9 • **Consumer Goods.** Artisans prepare such utilitarian goods for self consumption or for Exchange, such as baskets for keeping domestic articles, smoking pipes, footwear, hunting arrows, combs, storing, wooden and stone plates for use, and textile items like shawls, coats, jackets etc.
- Processing industries such as minor forest products for self consumption and for exchange at weekly hatt on barter age system or sell them for money to purchase other items for self consumption.
 - Decorative items include jewellery, and ornaments, earrings, ankletbells, necklaces, head gears, head dresses; other decorative items such as wall paintings, deities either wood or stone, artifacts. These handicrafts for decoration are for self use or sell / exchange them in the weekly market for money.

remote urban markets which are the main revenue generating sources for them. As a socio-economic group, artisans are among the poorest. The artisan typically does the entire forward/backward linkages of the production cycle himself, including financing, procurement of material, design development, product creation and selling. Support is provided through targeted government schemes, as well as through nongovernmental organizations (NGOs), who assist with various aspects within the production value chain.

13.69 Boxes 13.3 and 13.4 present two cases of non-government initiatives for development of traditional products produced by the unorganised sector, viz, the experiences of Dastkar and Fabindia.

13.70 There are several institutions that have been set up to assist in the production and marketing of handicrafts, such as the Development Commissioner (Handicrafts), Rural Non-Farm Development Agency (RUDA), Tribal Co-Operative Marketing Development

Box 13.3: DASTKAR- A Non-Government Organization

Founded in 1981, Dastkar is a registered society for crafts and craftspeople that aims at improving the economic status of craftspeople, thereby promoting the survival of traditional crafts. Dastkar strongly believes in 'craft' as a social, cultural and economic force of enormous strength and potential. The crux of its programme is to help craftspeople, especially women, learn to use their own inherent skills as a means of employment, income generation and economic self-sufficiency. The primary objectives of the organisation are to provide a link between the rural craftsperson and the urban consumer and to tackle the problems faced by craftspeople in the country through direct interaction with the artisans themselves. The craft skill and the product – its identification, development, production and marketing – are the catalyst to help traditional craftspeople regain their place in the Indian economic mainstream and development process. The objective is to create self-sustaining, viable producer groups and encourage them to market directly and not to subsidise craft. Guiding the process of developing a craft - from identifying the skill and creating awareness of it's potential in both craftsperson and consumer, developing, designing, costing and then marketing the product, and finally (but as important), suggesting the proper usages and investment of the income generated, are the various components of the programme. It must ensure that the end product is competitive – not just in its worthiness of purpose, or the neediness of its producer but in cost, utility and aesthetic, because a consumer does not buy out of compassion.

Major funding sources are Interchurch Organization for Development Co-operation (ICCO), Netherlands, Netherlands Embassy and DC (H), Govt. India.

Dastkar marketing is carried out through the Dastkari Bazaars and exhibitions where artisans sell their products directly to the customers, giving them a firsthand knowledge of customer tastes and trends. Dastkar's core strength differentiating it from other NGOs marketing craft, is their understanding of craft traditions and how to sensitively contemporize them for the urban market. Dastkar now charges fees on a sliding scale for consultative work with other NGOs for design or product development.

Dastkar works with 198 craft Producer Groups spread across 20 states. Over the past 10 years, the number of groups has increased from 53 to almost 200. The number of artisans reached through these groups is estimated to be about 35,000. Each year Dastkar selects about 8-10 groups and concentrates on every aspect of their working. Once the group in question has picked up the required skills, Dastkar aims to phase itself out from intensive input and only remain as a marketing agency to them.

During the year 2004-2005, Dastkar facilitated craft promotion through various bazaars and exhibitions benefiting 169,920 artisans, who made a cumulative sales of Rs.31 million in this period. The most successful of these was the Nature Bazaar held for a period of two weeks at Dilli Haat which resulted in sales of Rs. 21 million for the participating 167 groups of artisans.

Box 13.4: FABINDIA: A Private Retailer

The idea of Fabindia was conceived by John Bissell who saw the market potential of the village based textile industry in India. With an idea to showcase Indian handloom while providing employment to the traditional artisans in the villages, Fabindia was established in 1960. That idea has today become a very profitable, popular venture with 38 stores in India and abroad. The success of Fabindia rests with its ability to blend the traditional crafts of rural India with contemporary designs that are at the same time aesthetic as well as affordable. Starting with fabrics and textiles, today the chain of shops store furnishings, furniture and organic food items like pickles, jams and spices.

The products sold at Fabindia are sourced from villages all over the country. These craftsmen and women make the products in their homes or their place of work. Fabindia closely works with the artisans by providing various inputs including design, quality control, access to raw materials and production coordination. Fabindia exports garments and home linen to over 33 countries worldwide, to wholesalers as well as retailers. In addition to that, a special collection is developed for exports twice a year, which is showcased at the Indian Handicrafts and Gifts Fair, New Delhi.

Fabindia's annual turnover is an impressive Rs. 1.3 billion and it sources its products from over 7500 craft persons and artisans across India. By providing a market it is able to encourage and sustain rural employment. Fabindia has 38 retail outlets in all major cities of India, in addition to international outlets in Rome, Dubai and China. Sales are also conducted through an online shopping channel. The operating model is selling traditional Indian rural handicraft with contemporary designs of high quality at reasonable price to the consumer, while paying fair price to the producers and thereby helping support and sustain the village industries.

Part of the branding and quality association of Fabindia comes from its use of certifications for its products. The textiles use the "Craftmark" certification to authenticate the traditional technique used in the creation of the product. For its organic line, it uses the international certification "Organicmark" by a Swiss company. Fabindia Overseas, the apparel retail brand, is establishing community-owned companies to strengthen the supply chain for complementing its retail expansion.

The company also proposes to create a unique share trading system where artisans could be the shareholders in the newly formed companies and has tied up with financial services major, ICICI Bank for this purpose. ICICI Bank will release Rs 100 crore (Rs 1 billion) over the next five years through Fabindia's subsidiary, Artisans Micro Finance, to create community-owned companies. Fabindia will guarantee 8 per cent of the amount dispersed by the bank through AMFL. With long-term plans to establish 100 companies, Fabindia Overseas intends to create 20 companies in the next year and half. Out of the 17 centres identified, it has already established nine companies in Faridabad, Jaipur, Jodhpur, Bikaner and Bhuj.

Fabindia maintains that its initiative on community-owned companies will provide the existing supply chain with a corporate structure and develop supplies in newer areas. Currently, the company operates a centralized purchase system based at Delhi. Fabindia is also planning on developing further, its newly introduced organic food range and planning to enter into the organic snack food market. For this Fabindia has collaborated directly with farmers in Uttarakhand, Madhya Pradesh, Uttar Pradesh and Karnataka – the farmers already have got international certification.

Federation (TRIFED), States Handicraft and Handloom Development Corporations and so on.

Access to Raw Materials

13.71 In this section, we attempt to flag off some of the crucial issues to do with raw material availability for the unorganised sector in general. It presents the case of the plastics processing sector in some detail and mentions some aspects of other sectors. It is not our aim here to provide a comprehensive review of issues to do with raw material availability but to point out crucial dimensions that should not be ignored in the formulation of policy towards the microenterprise sector.

13.72 MSEs face acute raw material problems in terms of availability constraints, financial constraints to purchase them and price volatility, where they are forced to take the brunt. The capacity of MSEs to buy raw materials is limited and at times when the material is needed, it is not readily available. Considering their financial constraints and the need for minimizing their inventory costs, MSEs are forced to buy small amounts of needed raw-materials as and when the actual need arises. Unlike the organised sector enterprises, they are unable to derive the advantage of bulk purchases when market is favourable. Nor can they be sure of meeting their full requirements from the open market whenever they want; especially at reasonable price of acceptable quality that would keep them competitive. Their capacity to withstand the consequences of fluctuations in the prices of raw materials is also low. MSEs, on their own, also do not find easy to resort to direct imports. In times of acute shortages of raw materials and frequent escalation in the prices of raw materials, the MSEs are worst affected and require special measures to sustain themselves through difficult times.

13.73 These were some of the reasons why the system of raw material procurement and distribution was put in place. To an extent such issues of MSEs could be better addressed when the economy was regulated and price control and system of allocation was the rule. Much of this has changed with the liberalization of economy. The price control regime for a range of commodities has been dismantled, compounding the raw material constraints experienced by MSEs. While these are the general problems faced by the unorganised sector, the following

section examines specifically the case of the plastics processing industry.

Plastics /Polymers - a case study

13.74 The Indian Chemical, Petrochemical and Pharmaceutical industry is one of the fastest growing sectors of our economy with a size of Rs.3,90,000 crores turnover in 2007. This constitutes almost 23% of manufacturing capacity and around 8% of GDP. Among this group, Petrochemicals accounts major share of 40% and within Petrochemicals , Plastics are most important considering their impact on enhancing quality of life in general and improving employment opportunities in unorganised sector in particular. Apart from plastics, other important sub-groups under the category of Chemicals are Rubber products, Soaps and detergents, Wax candles, Paints & varnishes, Dyes & dye intermediates, Ayurvedic-medicines, Agarbattis, Essential oils, spices, fragrances & flavours etc. These are also the important sectors as far as unorganised sector is concerned. This group, it is estimated, is providing employment directly to 2 million workers in the unorganised sector alone. Some salient aspects of plastic processing are as follows: (a) Plastics have come to stay in contrast to natural materials like Wood, Metal, Glass, Paper and Jute etc; (b) At present, India is ranked 8th in the world in total Plastic consumption and is likely to be 3rd largest consumer of Plastics after US and China by 2012; (c) Plastics' processing in India is growing at 12-14% per annum and is likely to reach 12.5 Million Metric Tons per annum (MMT) by the end of 2012 from a present level of around 6.0 MMT.

MSEs in Plastics Processing

13.75 Below, we present some key statistics on MSEs in plastic processing:

- Micro and small sector accounts 55% of the total plastics processing in the country producing various Plastic goods.
- Different Census, Surveys and estimates suggest that there are around 55000 manufacturing enterprises in unorganised sector and another 4500 in organised sector in the field of Plastic Products. Plastics processing industry turnover in our country,

as of 2005-06, is reported to be Rs. 55,000 crores. Out of this, estimated turnover of organised sector is Rs.25, 000 crores and the balance Rs.30,000 crores of micro and small enterprises in unorganised sector. Considering present (upto 2007) double digit growth, current prices and consumption of 6.0 million tons of polymers, the turnover of plastics processing industry in 2007-08 could be estimated as Rs.75,000 crores. Out of this, turnover of micro and small processors has been estimated worth Rs.37,500 crores in 2007-08 for various plastic goods.

- Direct employment in Plastics processing sector in our country as on 2005-06 was estimated to be 6.4 lakh persons and indirect employment as 23.8 lakh persons by the Administrative Ministry, Department of Chemicals & Petrochemicals by 22000 units in various categories of units.
- Micro enterprises in unorganised sector are active both in primary and secondary processing of plastics. Such enterprises have really helped in making available plastic household goods like buckets, mugs, ropes & twines, PVC shoes, wires & cables, rigid & flexible pipes to our large masses at affordable prices.
- Micro and small enterprises in Plastics processing sector have a presence in almost every State of our country¹⁰.
- It is further noted that Plastics processing enterprises in and around Metro cities have graduated from micro to small and from small to medium enterprises. Micro enterprises in unorganised sector particularly in packaging film area have relocated themselves in new locations because of variety of reasons.
- Apart from virgin plastics consumption, approximately 20-30% of the Plastics waste gets recycled and is also being consumed every year.

Recycling activity is largely in informal sector comprising of waste pickers, kabariwalas, scrap dealers, bulk buyers and recyclers. Employment in this sector alone is estimated to be 3 lakh persons. Some of the important applications of recycled plastics include Floor mats & tiles, box strapping & niwar patties, Luggage & barsati films.

- Of late, several states have banned the use of plastic bags made out of poly-films of thickness 20 microns and below. Hon'ble High Court of Delhi has also issued recently an order directing state Govt. to issue notifications to increase thickness of plastic bags from 20 microns to 40 microns and also direct Plastic manufacturers to set up state of the art recycling Plant.

Plastics raw materials scenario

13.76 Plastic processing Industry in unorganised sector is largely dependent on commodity thermoplastics such as LDPE, LLDPE, HDPE, PP, PVC and PS. The raw material cost amounts to 70-80% of the selling price of finished plastics products. Availability of these raw materials is the crucial factor in the development of plastic processing industry. Currently, the availability scenario is very often erratic and price sensitive although indigenous manufacturers are producing the same utilizing more than 100% of their capacities.

13.77 Out of approximately 6.0 million tons demand, it is estimated that approximately 15% of the requirements is met by way of imports. Though imports are under OGL, fluctuations in international prices, anti-dumping duty on the import of one of the major thermoplastics (PVC) and import procedures, creates many hurdles to small and micro processors. In addition, Polymer manufacturers are also exporting 15-17% of their production, causing pressures on the availability of Plastic raw materials.

10 Thane, Nagpur & Pune in Maharashtra; Ahmadabad, Rajkot, Vadodara & Bhavnagar in Gujarat; Chennai, Salem & Thiruvallur in Tamilnadu ; Bangalore & Belgaum in Karnataka; Sadar & North-West districts of Delhi; Kanpur, Ghaziabad & NOIDA in U.P, Faridabad in Haryana ; Kolkata & Siliguri in West Bengal have a strong presence of Plastic units . Lately Adilabad & Nalgonda in A.P, Perumbavoor in Keraka, Chanditala (Hooghly) & Umarpur (Murshidabad) in West Bengal, Balasore in Orissa and Jaipur in Rajasthan have also emerged as Cluster Towns in Plastic enterprises.

13.78 Leading indigenous sources of polymers, as of now, are Reliance Industries Limited, Hazira; IPCL (RIL) Baroda, Gandhar & Nagothane; GAIL, Auraiya; HPL, Haldia; Finolex, Pune; DCW limited, Dhrangadhra; Shriram vinyl, Kota. Almost 70% of the indigenous thermoplastic polymers supply is being controlled by Reliance industries Ltd after taking over of IPCL. Haldia Petrochemicals Ltd controls around 18% and GAIL about 6%. All of them are supplying the Polymers (plastic raw materials) to plastics processors through their sales depot/consignee agents.

13.79 Leading Polymer manufacturers do not have any direct linkages with micro enterprises in processing sector. Only registered & established processors having necessary financial strength are in a position to place orders directly with the manufacturers. The number of such enterprises is not more than 5-10% in unorganised sector as revealed during the course of discussions with the office bearers of industry associations. Some salient aspects of access to raw materials in plastic processing are presented below:

- Material is sold against full advance and confirmed orders preferably to actual users. The actual user status is being ascertained by the Polymer manufacturers based on the documents of Excise /VAT registration, installed machinery, registration with DIC, water /electricity connection / bills etc.
- As and when there is surplus material, the same is offered to traders. A large number of unorganised sector enterprises depends on traders as their requirements is small and they are not able to follow procedures of polymer majors.
- Micro and small enterprises in unorganised sector get raw-materials at the highest prices since major polymer producers offer quantity linked discounts, which can only be availed by large or organised enterprises because of adequate financial resources at their disposal.
- State Small Industries Corporations in only two states i.e J&K and Orissa are acting as consignee agents of one of the polymer suppliers M/S Reliance Industries Limited. U. P. State Industrial Development Corporation is acting as a consignee

agent of GAIL (India) at limited places in U.P

- Plastic cluster studies conducted by Office of DC (MSME) through state Directorate of Industries/ DICs, as referred in this study, has pointed out that most of the micro and small enterprises have no direct contact with polymer majors and have suggested arrangement for common procurement of raw-materials/establishment of raw material bank in each cluster, to be managed by consortium of beneficiaries.

Price Volatility

13.80 Processing industry has witnessed frequent hike in prices of polymers to the extent of 30-40% during a span of six months from March –August, 2008. Plastic Processing Associations have reported that this has hit the industry hard and in fact has resulted in closure of micro and small units in Pune and elsewhere. One of the associations has demanded that there is a need to probe whether there is a cartelization among the polymer producers. The association has further pleaded that there is a need for a regulatory authority for ensuring price & supply discipline for polymers as there are over 50000 processing units in unorganized sector employing more than 35 lakhs people and contributing around Rs. 8000 crores to exchequer.

13.81 A forum of 20 Plastics Manufacturers Associations met in July, 2008 in Mumbai and has suggested the following measures to alleviate the raw material availability problems:

- (a) Customs duty on polymer imports may be reduced from the present 5% to nil
- (b) Excise duty on plastic products may be reduced from the current 14% to 8% (since reduced to 10% in December 2008)
- (c) Levy an export duty of 5% on exports of polymers
- (d) Import of industrial plastic scrap should be freely allowed

13.82 Another Plastics federation dealing with PVC Products has also demanded appointment of a regulator for polymer price discipline and has also requested for removal of antidumping duty on the imports of PVC.

13.83 International prices of crude oil as also of other important industrial inputs have declined in second half of 2008 because of general recession & lack of demand. However, polymer majors in our country have not passed on price reduction to processors in that proportion.

13.84 On the basis of the above, the following salient aspects may be noted:

- (a) Raw-material (polymers) costs around 70-80% of the selling prices for plastics in unorganised sector and hence minimizing the cost of raw materials will substantially improves the profitability.
- (b) Plastic Processing Industry in unorganised sector is largely dependent on commodity polymers, which are being supplied mainly by three major Polymer manufacturers i.e., Reliance Industries limited (RIL), Haldia Petrochemicals limited (HPL) and Gas Authority of India Limited (GAIL) although there are a few others. Almost 70% of commodity polymers supplies are controlled by RIL.
- (c) Enterprises in unorganised sector are having very poor linkages with polymer majors and are dependent upon traders.
- (d) Price instability affects unorganised plastic processors hard and sometimes pushes them out of business.
- (e) Prices of reprocessed plastic granules is 30-90% (depending upon quality) of the prices of virgin polymers. Many unorganised sector enterprises start using reprocessed granules on price considerations or in time of scarcity.

13.85 After having gone through the case of the plastics processing industry in some detail, we briefly present below the case of the metal products industry.

Metal products

13.86 Micro & small enterprises manufacturing hand tools, machine tools and other engineering & allied products require iron & steel, pig iron, scrap iron aluminum, copper, nickel, coal, coke, furnace oil etc. Government, through Ministry of Steel, is operating a scheme for allocation of Iron & Steel materials (angles,

channels, joints, plates of different types & grades, coils, wire, rods etc.) to MSEs. Based on the registered demand of MSEs, State Small Industries Corporations (SSICs) / National Small industries Corporation (NSIC) enter into MOU with leading Steel producers (SAIL, RINL, Tata Steel etc) for procurement of iron steel items. These materials are distributed to actual users along with the pro rata discounts as received from producers/Ministry of Steel.

13.87 Government provides nominal handling charges of Rs.500/-per tonne to corporations out of the Steel Development Fund. In addition, Rs. 400/- per tonne of steel delivered to MSEs through SSICs/NSIC is met by the producers towards defraying the cost of transportation to MSE sector. Thus, MSEs are able to get advantage of bulk purchases on raw materials through canalizing agencies. However, there is no control on prices. Further, unregistered enterprises are not able to get such benefits.

13.88 Time to time and recently in July /August 2008, MSEs engaged in metal working products experience severe heat of price rise on iron & steel materials . MSE associations of such enterprises in period of crises plead for stabilization of the prices that remain in force at least for three months. The associations also demand the following:

- (a) MSEs should not be charged higher prices than applicable to any category of customers.
- (b) Commodity trading and export of iron & steel items should be discouraged.
- (c) Steel majors should not stop producing /supplying certain category of items required by MSEs.
- (d) As and when prices of inputs increase, bankers and financial institutions should enhance c/c limits without any further collateral security.
- (e) Import of second & defective steel should be allowed.

13.89 However, for items like Iron & Steel, the Ministry of Steel has got standing mechanism of consultations with producers & users and SSICs /NSIC through a co-ordination Committee which provides some relief in the period of crises. Such corporations are also

handling procurement and distribution of other similar items like aluminum, copper etc.

13.90 Certain Engineering Associations/consortiums at Rajkot and Bangalore have also organised efficient procuring of raw materials like pig iron & coke, fluxes and various other raw materials for their member units on no-profit no-loss basis to take advantage of bulk purchasing.

13.91 Low custom duties regime have also improved the availability of items like pig iron, sponge iron, and cooking coke/ met coke.

Summing Up

13.92 Only very few MSEs in India have the financial and organizational capabilities to generate internal resources for technology acquisition, adaptation and innovation. Equally important is the lack of awareness of technological needs by MSEs. In addition, skill development efforts and educational levels of the labour force are abysmally low. Hence a specific firm-tailored technology and innovation policy is needed for manufacturing industries and many of the needs of the enterprises are also collective, and can be addressed by technology and innovation policy at the industry or district levels.

13.93 In order to understand policy interventions for fostering innovations in MSEs in India, three successful intermediaries have been examined in this chapter. CLRI thus presents the case of a government institute understanding the needs of the industry and responding to it by forging alliances with private parties, NGOs, industry associations and workers. Initially started as a technology development centre, it trespassed into other areas to introduce non-technological innovations. It also addressed the needs of small enterprises with tailor made programs for addressing their needs.

13.94 The RIN presents the case of a market model where the crucial role to promote innovation is left to market forces. According to this approach, this crucial role is played by a private intermediary, through professional services, technology brokers, venture capitalists and specialized new research start-ups, which

the RIN undertakes. However, even then the public authorities can play a crucial role in facilitating the circulation of information and in enhancing a higher level of formal education of the potential innovators.

13.95 EDI's intervention and innovation efforts in Jamnagar follows a model which encompasses those policy instruments, which are supported by public resources, but have been clearly created by a bottom-up initiative of private actors/ groups.. A crucial role in this case is played by the co-operation between enterprises and by independent foundations or research institutions. Stakeholders were grouped together around an industry association and regional development agencies were helpful instruments in promoting local co-operation. This approach, has some similarities with the experience in European countries to facilitate the relationship between local firms.

13.96 As regards technology acquisition and upgradation (TAU), the case studies document how policy interventions have facilitated the TAU process. The CLRI model does seem replicable at least with respect to the thrust for an integrated intra-industry approach that CLRI has adopted in promoting the technological culture. Clearly, LTM (Leather Technology Mission) and the HRD mission under the overall supervision of CLRI stand out as excellent examples of proactive intervention for technological dissemination. 'Reaching the unreached' is a programme well worth emulation by other agencies involved in other sectors. The problems are essentially linked to the question of an appropriate understanding of the structural constraints faced by the micro and small enterprises. Concomitantly, it also requires conceiving of a viable sustainable model which would enable micro enterprises to access modern technology so as to scale up their activities and also wherever possible be in a position to tie up with the organized sector.

13.97 Likewise results of another case study underscore a compelling need for a similar reorientation of TAU programme with regard to textiles. The existing nodal agencies for the promotion of TAU in textiles, be they SITRA or ATIRA, need to focus greater attention to the needs of the large and dispersed handloom and small power loom and spinning sector than has hitherto been

the case. Given the importance of the textile sector with respect to the sheer size of it, a textile technology mission specifically targeting the small and micro enterprises in this sector may go a long way in identifying and redressing the problems of viability of the small scale textile sector.

13.98 CLRI, as noted earlier, has played an exceptional role in fostering a technological culture across sectors in the leather Industry. From the very outset CLRI had forged very close links with the industry with its research programmes often dovetailed to the needs of the industry. Since the nineties there has been a marked shift in the research agenda of CLRI characterized by an approach which is sensitive to the needs of the small scale sector as well.

13.99 Some of the significant lessons learnt by nodal agency and in this case scientists of CLRI in the complex process of technological dissemination relate to the very process of intervention. It was observed that traditional artisans and craftspeople are usually very apprehensive and circumspect about adopting new technologies. Overcoming their fears and mistrust and gaining their confidence was a major challenge faced by scientists and required very sensitive and persuasive interventional approach. However once the ice was broken, they were extremely receptive to ideas of change. This close mutually supportive interactive process has helped the scientists to evolve appropriate technologies which are a blend of best of both.

13.100 Many of these best practices need to be more widely publicized than has hitherto been the case.

13.101 As regards access to marketing, the MSEs seem to have poor access due to various factors. First, the marketing requirements of many industries are not being met due to their differing and specific needs. Second, most of the MSEs incur huge transportation costs. Third, most of them lack market information, training and marketing skills partly due to non-registration with traders in associations or cooperatives. Fourth, poor marketing linkages with large enterprises, both nationally and internationally, restrict MSEs' ability to develop and

grow. This is mainly due to inadequate institutional arrangements to link-up with markets.

13.102 The inadequate access to raw materials is reflected by the fact that a large number of unorganized enterprises depend on traders without direct contact with the key raw material manufacturers. The MSEs also face trade barriers, pay higher prices for inputs and face price instability.

Policy Implications and Recommendations

13.103 After having gone through the issues and experiences with access to technology, marketing and raw materials for the unorganised sector, below we outline some major recommendations that are being made by the Commission to overcome some of these barriers experienced by microenterprises in India. Apart from its own consultations and studies, the Commission have had the benefits of two reports¹¹:

- Report of the Inter-Ministry Task Force on Technological, Investment and Marketing support for Household and Artisanal Manufacturing constituted by the Planning Commission (2005) and
- Report of the Working Group on Science and Technology for Small Scale and Medium Enterprises for the 11th Five Year Plan (2007-12)

13.104 Keeping in view the special requirements of the unorganised sector, the Commission makes the following recommendations to promote innovation, dissemination, acquisition and upgradation of technology in the unorganised sector enterprises:

Institutional

- *Creation of National Council for Technological Upgradation of the Unorganised Sector* under the Chairmanship of the Prime Minister with State/ UT Chief minister as Members, similar to the pattern of National Council on Skill Development set up recently.

11 See Boxes 13.5 and 13.6 for the major recommendations

Box 13.5: Recommendations of the Inter Ministerial Group of the Planning Commission

The Inter Ministerial Group (IMG) formed by the Planning Commission found that the issue of technology for household and artisanal manufacturing covered Ministries like Small Scale Industries (now Micro, Small and Medium Enterprises), Agro and Rural Industries, Food Processing, Textile, Rural Development, Science and Technology, Finance, Industry and commerce, etc. The IMG report has taken a holistic view of the unorganised sector enterprises and has more deeply looked into the technological constraints and needs of handlooms, handicrafts, sericulture, village and small enterprises and food processing industries which are an integral part of the unorganised sector enterprises. The major recommendations of the IMG in so far as technology development and dissemination are concerned are briefly given below.

- A new Ministry for Artisan and Household Manufacturing may be carved out, by consolidating all activities of different departments pertaining to this sector. The report observes that multiplicity of organisations dealing with this sector does not permit a coherent response to the difficult challenges faced by this sector.
- A National Council on Artisans could be set up under the Prime Minister, with Chief Ministers and relevant Central Departments, as members.
- Establishment of a Technology Mission to promote introduction of new and emerging technology for household manufacturing and artisanal units to finalise craft wise technology packing, to set up Rural Functional Industrial Estates/ Integrated Resource Centre, to set up technology banks, encourage R&D, create incubator infrastructure, organise awareness campaigns, coordinate efforts of various agencies, technical centres etc.
- A coordinated exercise to identify technology packages for each craft, resulting in a shared technology bank should be undertaken.
- Rural Functional Industrial Estates (RFIE) should be set up for each craft and should be located in specifically identified cluster within the relevant group.
- Household Manufacturing and Artisan Cluster Development Scheme should be implemented exclusively for the identified clusters on the pattern of existing Small Industry Cluster Development Scheme.
- Undertake Programmes for support of product development in high potential clusters having access to export markets.
- A well knit arrangement for financial support for Technology Upgradation should be provided.

• *Adoption of Mission Mode Approach for Promotion of Technology in the Unorganised Sector through CSIR*

13.105 The task of promotion of technology in the unorganised sector particularly in the rural areas may be taken up through Mission Mode Approach covering the following aspects: (a) To promote introduction of new and emerging technologies for important products in the micro enterprise sector, household manufacturing and artisanal units; (b) To finalize product craft-wise

technology package for implementation; (c) To set up Technological Innovations and Dissemination Centres in each state and UT for unorganized sector enterprises; (d) To set up Functional Industrial Estates/Integrated Resource Centres in identified clusters; (e) To set up Technology bank, for sourcing technology from India and abroad and facilitate technology transfer; (f) Co-ordination with existing R&D institutions and encourage R&D of indigenous technologies; (g) To promote dissemination of technology at local level through the

Box 13.6: Recommendations of the Report of the Working Group on Science and Technology for Small Scale and Medium Enterprises for the 11th Five Year Plan (2007-12)

- There are about 20 incubators in India today as against over 1000 plus in US, 300 in Korea 100 in Finland. TBIs must be promoted in a big way not only in terms of numbers but also their size. Universities, Engineering Colleges and Business Schools should be the preferred sites for these TBIs.
- Innovation and Entrepreneurship hold the key to enhancing the role of SMEs in improving the Indian economy. As their importance is not well realized, countrywide programmes on entrepreneurship and innovation must be launched in the shape of a national movement.
- It is understood that there are plans to launch schemes for revamping and modernizing polytechnics and ITIs in 11th plan. When these investments are made, the special role that they can play for SMEs. The Working Group strongly recommends that polytechnics and industrial training institutes should be encouraged to organize short-term programs for vocational training of school dropouts in a variety of multi-skilled job positions that would be available in SMEs.
- The importance of S&T interventions in SMEs on a cluster basis is today well appreciated internationally. There have been many attempts for technology of duration of clusters of SMEs in India by the Ministries of MSME. A Mission Mode approach for technology intervention in the 11th Plan to help increase their productivity and exports significantly is recommended.
- Preparing sectoral technology profiles of the SMEs will help in critically examining and addressing technology needs in line with the business requirements of the respective sectors. To begin with, 10 SME sectors viz. Food and allied industries, Wood and wood products, Paper products, Leather and leather products including footwear, Rubber products, Plastic products, Glass and ceramics, Electrical machines, appliances and apparatus, Bicycle parts, tricycles & perambulators and Sports goods can be taken up for technology profiling.
- Awareness about safety, health, ergonomics, occupational hazards and environmental issues needs a high priority and must go along with schemes and not separately.
- It is felt that the productivity of SMEs can be improved significantly by making available to them Special Purpose Machines (SPM). A national level committee / Group should be assigned the task of identifying such machines and also suggesting if they should be developed indigenously or imported for these SMEs.
- There is a strong need for spreading awareness of IPR amongst the SMEs. Patenting should be encouraged by offering financial support/ subsidies. Likewise, quality assurance, ecolabelling, barcoding etc. of products should be encouraged in a big way.

District Industries Centres (DICs) and other technology centres engaged in promotion of unorganized sector; (h) To create innovation incubators and business incubators; (i) To provide hand-holding facility to unorganized entrepreneurs in accessing technology; (j) To stimulate and promote technology audits and address to environmental, safety and health concerns; (k) To organize awareness campaigns pertaining to quality, standardization and customer satisfaction.

13.106 These tasks have to be integrated at 5 levels: (a) National level-through the Focal Point/Apex institution and National Fund for Unorganised Sector; (b) State/Regional level-through Technological Innovations and Dissemination Centres; (c) District level-through District Industries Centres (DIC); (d) At cluster level through identified clusters; (e) R&D institution level- through respective R&D institutions and the institutions engaged in the task of promotion of micro, household and artisanal enterprises.

13.107 For example, to specifically strengthen rural microenterprises that are in the khadi and village industries sector, institutions such as the Mahatma Gandhi Institute for Rural Industrialization, Wardha, should be strengthened to make it the Apex Rural Technology Promotion Centre. All products specific R&D Centres of the KVIC and other All India Boards catering to other traditional industries, can work under the supervision of the Wardha Institute.

Dissemination/Awareness

Setting up Technological Innovations and Dissemination Centres in each state and UT

13.108 Based on above and the International experiences in the matter of S&T promotion efforts, it is felt that Technological Innovations and Dissemination Centres (TIDCs) be set up with following details: (a) At least one TIDC in each state and UTs. This will ensure geographical and regional spread cutting across the linguistic barrier of standard technological initiatives; (b) TIDC to be developed as standard IIT-CSIR venture. The advantage of placing such an organization under academic environment is that it will be able to upgrade itself to the prevailing standard in future also, as the obsolescence rate in technology related field is quite high.

13.109 TIDC to undertake following activities: (a) Showcasing of technological advancement (some sort of science museum) for creating awareness and interest in S&T in the minds of general public; (b) Dissemination of technology developed by CSIR and other Government labs; (c) Interact with Technology Development Institutions within and outside the state and outside the country; (d) Taking up of the technological innovations and incremental technological development of prevailing technologies in their region for increase in productivity and standardization and further disseminations of such standardized technologies; (e) Organising technology awareness camps, etc., besides undertaking handholding activities in close co-ordination with the DICs in their region; (f) Undertaking contract research with individuals and enterprises in their region for better productivity and adoption/development of new technologies; (g) Each TIDC to work as technological hub for technological upgradation and awareness creation in their regions; (h)

Maintain a panel of consultants in respect of important products from the unorganized sector enterprises.

District Industries Centres to be Nodal Agency at District Level for Technology Dissemination

13.110 There are currently about 600 DICs covering all the districts in the country. The task of technology dissemination can be performed only by an institution which is well-known and accessible to the entrepreneurs. The Commission feels that the task can be entrusted to District Industries Centres since they exist in almost all districts of the country. The main task of the Technology Centre within the DIC will be following: (a) To coordinate with all existing R&D centres, technology centres run by various organisations such as DC MSME, DC Handloom, DC Handicraft, KVIC, KVIB, Coir Board, Central Silk Board, R&D Centres of the Ministry of S&T, CSIR, Ministry of Food Processing etc. those run by the State Governments and NGOs. Gather information on R&D initiatives relevant for local areas and publish them in local language for the benefit of the prospective and existing entrepreneurs in the non-farm unorganised sector; (b) To be in constant touch of the State/Regional Technology Centres/ University in the district if any, and technical institutions; (c) Display the technologies developed for the product lines being practiced in the district and also having potential; (d) Print out handbooks on incentives made available under various Central and State Schemes both financial and physical and publicize; (e) Maintain data bank on technologies; (f) Link the entrepreneurs with the banks; (g) Spreading awareness about the need importance of technology upgradation in the district; (h) Provide guidance, hand-holding and arrange mentoring services within the district.

13.111 Thus the DICs will be a link between the Central Government, Regional technology Promotion Centre and the R&D institutions. For this, the Ministry of MSME in co-ordination with the Ministry of Textiles, Food Processing and Rural Development should formulate a Central Scheme of Technology Dissemination to be implemented through the DICs tool work as centre for display and dissemination of technology.

Skill and Entrepreneurship Development

Strengthening Polytechnics and ITIs for Rural /small town areas for linking technology with skill

13.112 The important role that these institutions can play in science and technology intervention for MSEs, particularly those based on rural areas was recognized as early as 1978. Studies have revealed several gaps in existing skill development programmes through it is and polytechnics. They suffer from obsolete and outdated trades. The Polytechnics as a whole should raise the S&T level of their own staff and students, by solving live rural problems. *There are plans to launch schemes for revamping and modernizing polytechnics and ITIs in 11th Plan. When these investments are made, the special role that they can play for MSEs in the neighbourhood, must be emphasized and prioritized. The Commission strongly recommends that Polytechnics and Industrial Training Institutes should be encouraged to organize short-term programs for vocational training of school dropouts in a variety of multi-skilled job positions that would be available in MSEs. In evolving these training programs industry involvement should be mandatory and employer-based training programs should be encouraged. There should be a special initiative to ensure proper training to the trainers engaged for conducting such courses. The resource persons should be offered attractive remuneration to make the programme interesting and useful.*

Creating a climate for Entrepreneurship

13.113 Innovation and Entrepreneurship hold the key to enhancing the role of MSEs in improving the Indian economy. As their importance is not well realized, countrywide programmes on entrepreneurship and innovation must be launched in the shape of a national movement by the MSME Development Institutes. Entrepreneurship should be promoted as a preferred career and not as an alternate career. Entrepreneurship/incubation should be a part of the engineering curriculum. Towards this, among other things the training of teachers/trainers is necessary and special steps should be taken in this direction. Recognition/ incentives for innovation and entrepreneurship in the clusters and education institutes must be introduced. *An enhancement in budget in all schemes promoting innovation and entrepreneurship is recommended.*

Adoption of Unorganised Enterprises by Technical Colleges

13.114 Adoption of MSEs by Technical Colleges for Promoting Academia-MSE interaction for Innovation Science and Technology and innovation will become more and more important for the entire MSE (Micro& Small Enterprises) spectrum. Every engineering university in collaboration with college in the country must be encouraged to interact with as many MSEs in its neighbourhood. Such interaction should necessarily involve the whole spectrum of MSEs. It may be stipulated that minimum 20 micro and small enterprises be taken up by each technical college in the University for following interactions: (a) Specific research, development, design and engineering programs for technology inputs and upgradation; (b) Summer vacation internship (in-plant training) for undergraduate students; (c) Consultancy and visits by faculty to MSEs; (d) Seminars and Workshops, Discussion Meetings *etc* at locations close to SME clusters to discuss specific technology, science and technology advancements in the respective areas; (e) Continuing Education Programmes aimed at MSEs at levels of technicians, supervisors, engineers and entrepreneurs; (f) Discussions to improve productivity; (g) Suggest adoption of appropriate technology to the unit; (h) Train the entrepreneurs for upgradation of skills and technology.

IPR and related matters

13.115 There is a strong need for spreading awareness of IPR amongst the MSEs. Patenting should be encouraged by offering financial support/subsidies. Likewise, quality assurance, eco-labeling, bar-coding *etc.* of products should be encouraged in a big way.

Rationalizing, simplifying and expanding schemes

Revise Technology Upgradation Fund Scheme of the Ministry of Textile to make it accessible to Handloom and Handicraft Sector without Conditionalities of minimum amount of loan and submission of Balance Sheet

13.116 Technology Upgradation Fund Scheme of the Ministry of Textile is termed as a flagship scheme, with bold outlays and visible impact in the textile sector.

However, due to some of the conditions of this scheme, unorganised handloom and powerloom units are not in a position to benefit from this scheme. This scheme is available both in the form of interest subsidy (5 per cent) and capital subsidy (20 per cent). It is for the beneficiary to choose between the two alternatives. However, difficulty faced by the unorganised units in availing this scheme is partly due to the units' inability to maintain accounts and other documents acceptable by the banks as the banks do not consider units with less than 10 looms as viable enterprise and thus leaves out the unorganised handloom and powerloom units. There is a need to revise this scheme in favour of the unorganised enterprises and that the rate of Capital Subsidy should be raised to 25 per cent for the handloom enterprises with loan requirement upto Rs 15 lakh.

Broad Base Credit Linked Capital Subsidy Scheme (CLCSS) for Technology Upgradation of Micro and Small Enterprises

13.117 Credit linked capital subsidy scheme for technology upgradation of micro and small enterprises launched in 2000 has made good progress in recent years. The scheme needs to be made attractive and popular. It would be appropriate to raise rate of subsidy to 25 per cent under Credit Linked Capital Subsidy Scheme of the Ministry of MSME for the micro enterprises with investment in plant and machinery less than Rs 5 lakhs for loan requirement of Rs 15 lakh for technology upgradation.

Set up Mini Tool Rooms-cum-Testing Centres

13.118 The report card of Tool Rooms and Regional Testing Centres under the Ministry of MSME is praiseworthy. However, in a country of India size, existing facilities are inadequate. It is recommended that Mini Tool Room cum Testing Centres be set up in all MSME Development Institutes by revamping the existing workshops. There are 58 such institutes under Ministry of MSME. The testing centres should cover testing facilities for important product lines falling within the reach of Development Institutes and Branch Institutes.

Providing Better Linkage

Incentive for Linkage between Large and Unorganised Enterprises

13.119 The nature of large-firm small-firm linkages in the Indian context have been underlined in a chapter of this report. The challenge here is to ensure linkages that contribute to the growth and competitiveness of MSEs. These linkages could be in four forms:

- (i) Backward linkages with suppliers,
- (ii) Linkages with technology partners,
- (iii) Forward linkages with customers and adoption of high skill programme, etc.
- (iv) Other spillover effects such as demonstration effects.

13.120 Closer co-operation of large and medium enterprises with micro and small enterprises is highly desirable to foster the growth of unorganised enterprises as ancillary to large and medium units. Industry associations of both larger and smaller units should play a vital role in creation of such tie-ups. This will be beneficial to both the segments. Such a linkage can be promoted through statutory provision of procurement of a minimum percentage of total requirements from micro and small enterprises, as it exists in USA under Business Administration Act. Further, fiscal and physical incentives could also be considered to promote the needed linkages.

Adequate Credit

Addressing to the problem of Credit for Technological Upgradation

13.121 NCEUS Reports on "Financing of Unorganised Enterprises" and "Creation of National Fund for Unorganised Enterprises" have gone into the credit linked schemes for technology upgradation, in addition to the general problems to do with credit access for enterprises in the unorganised sector.

13.122 It is specifically recommended that loans upto Rs 5 lakh for technology upgradation by unorganised

enterprises should necessarily be covered under the Credit Guarantee Scheme and without collateral. Secondly, the guarantee cover be raised to 90 per cent for Micro Enterprises, Artisan Enterprises and Traditional industries for loans upto Rs 15 lakh sanctioned for technology upgradation. This is on the assumption that cost of technology upgradation is relatively high.

Policy Implications to enhance marketing

13.123 Marketing is one of the major constraints the producers in the unorganized sector face. Therefore, various policy measures and organizational arrangements are needed to overcome the difficulties associated with marketing. First, adequate institutional arrangements for marketing are crucial to link up unorganized sector producers to local, national and international markets. Second, access to affordable and reliable transport is also crucial for producers to market their products. Third, efforts are needed to strengthen producer registration and enterprise recording systems as to enable more producers to use market information in formal production planning and acquire marketing skills. Fourth, institutional mechanisms need to be devised to bring enterprises together to form groups (e.g., associations or co-operatives) to enhance both economies of scale in production and marketing. Finally, industries differ in marketing needs. Therefore, marketing issues need to be tailored to the critical requirements of specific industry groups, as the examples of handloom industry and handicrafts sector in this chapter suggest.

Recommendations to Improve Access to Raw Materials

13.124 The following are a set of recommendations to ensure improved access of raw materials at reasonable prices to enterprises in unorganised sector.

- i) State Industries / Small Industries Development Corporations (SIDCs/SSIDCs)/National Small Industries Corporation (NSIC) should enlarge their raw material portfolio so that scarce / imported raw materials/energy inputs are available to micro & small enterprises at their doorsteps.
- ii) Raw Materials banks are to be encouraged in identified clusters of micro & small enterprises, to be managed by concerned associations/ consortiums of beneficiaries so as to take advantages of bulk purchasing.
- iii) Micro & small enterprises in unorganised sector should also be encouraged to get them registered with DICs/ Excise authorities and to adopt market friendly practices so that they can directly deal with raw material manufacturers/ consignee agents/Canalising agencies.
- iv) Trade barriers like imposition of safeguard/ antidumping duty on imports of vital raw materials create unnecessary pressure on free availability of such raw materials. User industry concerns should be taken into account prior to imposition of such duties.

14

From Industrial Clusters to Growth Poles

Introduction

14.1 We saw in Chapter 11 that a significant proportion of micro enterprises, about a third of them, are involved in contractual relationships with larger enterprises across industries and across differently sized enterprises. In fact, we noted that contractual production was seen most prominently for the smallest sized or own account enterprises in the manufacturing sector.

14.2 It is widely observed that industrial clusters play a significant role in successful industrial development in both developed and developing countries. They are also seen as drivers of national competitiveness and growth. In many developing countries, micro and small enterprises dominate the industrial clusters. They tend to be successful because they have the capacity to improve the quality of their products and to develop new marketing channels. As these enterprises are labour-intensive, they are expected to contribute to poverty alleviation by raising employment opportunities.

14.3 It is also fairly well documented that a significant part of micro enterprise production in India takes place in clusters of different types, where agglomerations of small and tiny enterprises exist and produce side by side, making the organizational aspects of production different from that in which a small firm might be entirely on

its own. In fact, while the enterprises themselves might be tiny, allowing entrepreneurs and their families merely to eke out a living on the borderline of subsistence, these enterprises are very often seen to be connected to domestic and international value chains through connections with larger firms on the one hand and a variety of other actors such as traders, agents of marketing channels such as retail stores, raw material dealers and so on.

14.4 In this chapter, we first define ‘industrial cluster’ and then discuss the potential benefits of a cluster including the importance of micro and small enterprises in clusters. Second, we examine some of the key determinants of cluster development. Third, we describe how micro and small enterprises are clustered in various parts of India. Fourth, the importance of cluster development policies around the world is briefly discussed followed by cluster development policies and value chain in India. Fifth, some of the factors responsible for both successes and failures of cluster development in India is dealt with. Sixth, we look at the extent to which micro enterprises operate in clusters in India and how they link up with value chains of different types with the help of a few case studies. Seventh, summary and policy recommendations are spelt out. Finally, we conclude with the Commission’s proposal and recommendations for the development of Cluster-based Growth Poles in the country.

Defining industrial clusters

14.5 Traditionally, clustering refers to the process in which geographically proximate producers, suppliers, buyers, and other actors develop and intensify collaboration with mutually beneficial effects. In its most advanced form, Porter (2000) defines cluster as a geographically proximate group of interconnected enterprises and associated institutions in a particular field, linked by commonality and complementarity. Thus, a cluster may include suppliers of inputs, or extend downstream to regular buyers or exporters, government institutions, business associations, providers of business services, and agencies that support clustered enterprises in such fields as product development, production process improvement, technology, marketing information and vocational training.

Potential benefits of a Cluster

14.6 A growing body of literature in both advanced as well as developing countries suggests that the co-location of enterprises in clusters is aimed at securing some of the following benefits:

- a. Reduction in transaction costs.
- b. Innovation and technological development arising from local interactions (knowledge externalities and spillovers).
- c. Reduced costs through learning by imitation and emulation.
- d. Localised external economies such as specialized labour market, specialization through increased local division of labour and existence of competent specialized suppliers.
- e. Advantages related to being customer driven organization and product diversification.
- f. Joint action of local producers (cooperation among enterprises or groups of firms joining forces in business associations or consortia) that would *inter alia* enable the cooperating units collectively to reap the economies of both scale and scope to the extent they work as complementary and mutually supportive producers.

14.7 A vast majority of the empirical studies have found that clustered enterprises show a higher innovative capacity than isolated firms. Such clusters open up efficiency gains which individual enterprises rarely attain. These efficiency gains are due to the competitive advantage derived from local external economies and joint action. And, this is true not only in developed countries but also in developing countries. As a result, clusters are now common in a wide range of countries and sectors. In addition, they have helped small enterprises to overcome well-known growth and marketing constraints. However, the growth experiences have been diverse. At one extreme, there are artisanal clusters with little dynamism and low innovative capacity. At the other extreme, there are clusters with deepening inter-firm division of labour, enhanced competitiveness and international market penetration.

14.8 Isolated enterprises generally face additional constraints in the era of liberalization and globalization that require products with higher quality, larger production quantities, and regular supply. This restricts their ability to improve efficiency and productivity and also to adapt and be flexible in changing market conditions including difficulties associated with economies of scale. However, as the evidence from many European countries suggest, clusters can be a powerful means for overcoming these constraints and succeeding in an ever more competitive market environments.

Importance of clustered Micro and Small Enterprises

14.9 Historically, the best known examples are the Italian industrial districts and similar examples in other developed countries where clusters of small enterprises have broken into international markets. Similar examples are noted in the developing countries as well. Recent research on industrial clusters has documented some notable success stories of small enterprises growing fast and competing in export markets. Some such examples are the following: Rattan furniture, Indonesia; Towels, Turkey; Cotton T-shirts, India; Jewellery, Thailand; Computers, Taiwan; Shoes, Brazil; Surgical instruments, Pakistan.

14.10 The clustered micro and small enterprises have many advantages: employment creation, generation of foreign currencies through exports, potential to grow into larger enterprises, domestic producers of cheap import substitution goods for low-income groups, and producers of components, tools and spare parts for large enterprises.

Determinants of Cluster development

14.11 The critical factors that explain growth and competitiveness of clustered enterprises are local external economies (incidental benefits producers provide for each other) and consciously pursued joint action (industrial networks or collective action).

14.12 Case studies in Egypt and South Africa show that whether or not a cluster becomes an integrated part of an economic system and contributes to economic growth depends on the type of cluster (sectoral location), geography (physical location), the institutional landscape that structures how the actors organize themselves, the external (macroeconomic) environment, and whether or not the combination of all these factors is conducive to learning (Parto, 2008).

14.13 Research on industrial clusters in Asia provides evidence on the following conditions for successful industrial clusters: (a) infrastructure, (b) institutional framework (legal system, participatory actors, coordination among actors etc.), and (c) government support in terms of laws, taxation and finance. Among these conditions, the role of government is particularly emphasized. It is well known that in developing countries market mechanisms for fostering development does not function well due to regulations, bureaucracy and existing legal framework. In addition, there is no proper market for capital or human resources. Hence, the government must complement market mechanism and address the aforementioned three conditions to foster industrial clusters. In the emerging literature, other factors such as embedded networks and social capital were also found to be critical for the success of industrial clusters.

14.14 In the face of trade liberalization, globalization and other changes in market conditions, recent evidence from many parts of the developing countries suggest that upgrading of product quality and exploitation of new

market channels are essential to sustain the development of industrial clusters.

MSE Clusters in India

14.15 A review of the development of the clusters of micro and small enterprises in India is presented in this section. The industrial clusters are found in most of the states and most of them are located in rural areas. In India, there are a number of industrial clusters which have evolved over a long period of time. These include artisanal, traditional and modern industries. Most of the clusters were established naturally as traditional activities of local communities. On the whole, the evolution of clusters in India is the result of a conjunction of various factors such as the access to certain raw materials (e.g. sand stone), formation of skills (e.g. gems and jewellery), caste-based development of skills and crafts (e.g. handlooms and handicrafts) or in certain recent examples the development of large scale modern industries (e.g. auto components).

14.16 Many of these clusters have a large potential to grow given the abundance of local raw materials and workers who have special skills in making such products. Therefore, their potential for development from the point of micro and small enterprises need to be recognised more forcefully than hitherto. A few examples of such clusters that are being studied by researchers in the Indian context are the following: Cotton knitwear-manufacturing clusters of Tiruppur, Tamil Nadu; Leather wear complex in Agra, Kolkata, and in the Ambur-Vaniambadi belt in Tamil Nadu; Agro-machine tools and knitwear clusters in Ludhiana, Punjab; Morbi flooring tile clusters in Gujarat; Garment cluster at Ahmedabad, Gujarat; Durgapur small-scale industrial sector, West Bengal.

14.17 How important are micro enterprise-based clusters in India? There is no published database that gives us a consistent picture. According to a recent report (MSME Foundation 2007) secondary information on about 6400 clusters shows that close to 6000 are micro enterprise based and termed as 'low-tech'. Nearly 99 per cent of the clusters operate in traditional sectors, whereas only the relatively tiny number of clusters may be said to be 'high-tech' clusters. Table 14.1 shows the regional distribution of SME clusters, perhaps the more

Table 14.1: State-wise Distribution of SME Clusters in India

S.No.	State	Number of Cluster
1	Maharashtra	58
2	Gujarat	49
3	UP	39
4	Andhra Pradesh	32
5	Punjab	30
6	TN	28
7	Haryana	24
8	Rajasthan	20
9	Delhi	19
10	Karnataka	19
11	W. Bengal	17
12	Orissa	13
13	Kerala	10
14	MP	10
15	J&K	5
16	Jharkand	3
17	HP	3
18	Uttaranchal	3
19	Bihar	3
20	Chattisgarh	1
21	Goa	1

Source : <http://web5.laghu-udyog.com>

prominent ones. Not surprisingly, most clusters are found in the more industrialized states like Maharashtra and Gujarat. Most of the less industrialized states like Bihar, Orissa and Madhya Pradesh have very few clusters.

14.18 Another database on clusters prepared by the UNIDO lists more than 4000 artisanal clusters and about 363 non-artisanal clusters, producing products across a very wide spectrum of manufacturing, as Table 14.2 shows. The data pertains to products that at least 20 clusters specialise in.¹ The table shows that handlooms and handicraft clusters constitute more than half of the micro enterprise based clusters.

14.19 Based on the UNIDO classification, we also have the following information on distribution of clusters and their characteristics including export potentials.²

14.20 In the *Food Products* category, 25 clusters are listed as ones with high export potential and 24 reported to have high potential for technological upgradation. We also observe a strong correlation between export potential and technological upgradation potential, indicating a possible source of intervention. Oil and rice mills account for a substantial share of both the total and those with good growth potential. Marine products are another sub-segment under this category. Under the *Ores, Minerals, Mineral Fuels, Lubricants, Gas & Electricity* category, we find that most clusters are of an extractive kind, particularly of stones like marble, granite and other flooring materials. Drugs and pharmaceutical clusters account for a good share of clusters with potential among the *Chemical and Allied products* category. Under *Rubber, Plastic, Leather & their products* a majority specialize in leather goods. Once again, they have good potential for both technology and export market access.

1 In some cases, the categories have been combined if they are related. Also, the numbers are only close proximations and not exact numbers. Related categories are listed under separate headings and if they are small in number they have been omitted. So this table can be read as one that gives the relative share of broad product categories among the artisanal clusters in India.

2 a) Textile and Textile Articles- 73
b) Animal, Vegetable, Horticulture, Forestry products, Beverages, Tobacco and Pan Masala and non- edible Water / Spirit & Alcohol chiefly used in Industry. (Food products with rice and dal mills constituting the bulk of enterprises)- 62
c) Ores, Minerals, Mineral Fuels, Lubricants, Gas & Electricity- 19
d) Chemical and Allied products- 25
e) Wood, Cork, Thermocol & Paper and articles thereof- 21
f) Base metals, Products thereof & Machinery equipment and parts thereof. excl Transport equipment- 117
g) Railways, Airways, Ships & road surface transport and related equipment & parts- 12.
h) Other manufactured articles and services, n.e.c.- 35
i) Rubber, Plastic, Leather & products thereof- 24

Table 14.2: Distribution of Artisanal Clusters by Product Specialisation

No	Product Specialisation	Approx. No of Clusters
1	Textiles hand embroidered and printed	125
2	Cane and Bamboo related	123
3	Textiles handlooms	107
4	Earthen ware, plaster, pottery	103
5	Wood carving/moulding/furniture	102
6	Metalware incl. jewellery	98
7	Furniture and Fixtures	66
8	Jewellery	63
9	Zari and zari work by hand	54
10	Printing of cloth/Dhuri making	51
11	Dolls and toys	51
12	Embroidery	41
13	Stone artware, carving	39
14	Containers	35
15	Wood Turning & Laquerware	35
16	Pottery and Clay	34
17	Woollen carpets and garments by hand	32
18	Grass, Reed, Fibre, Leaf based Pdts	31
19	Carpets	31
20	Art work by sari	20-30
21	Bleaching/Dyeing, printing	20-30
22	Crocheted pdts and hand made clothing	20-30
23	Leather pdts incl. Footwear	27
24	Lead based articles	25
25	Artistic chappals by hand	23
26	Jute/hemp/mesta pdts	23
27	Brass and copper ware	22
28	Terracota	22

Source: *ibid.*

14.21 In the *Garment and Textile* category, 39 of the 70 odd clusters specialize in power looms and ready made garments constitute a major proportion of the remaining clusters. Within the powerloom clusters, less than 50 per cent have high export potential with many are reported to have only medium potential for technological upgradation. The clusters classified under the *Base metals*,

Products thereof & Machinery equipment and parts thereof. excl Transport equipment appear to be a much more heterogeneous set producing a range of specialized goods. In terms of technological upgradation and skill enhancement, this segment along with transport equipment possibly offers the best prospects. Key segments of the cluster include agricultural implements, castings and forgings, engineering equipment- mechanical and electrical, diesel engines, machine tools and surgical equipment. Though many of them report only medium potential for exports, they can sustain their dynamism by developing linkages with the domestic consumers.

Different Kinds of Clusters: Horizontal, Vertical and Mixed

14.22 The overall picture in India shows a numerical domination of traditional artisanal clusters that are likely to be dominated entirely by micro enterprises. These are also likely to be 'horizontal clusters' by the UNIDO's definition, where units process raw material to produce and subsequently market the finished product themselves. We will go into the economics of such clusters below but before that, we look at types of mixed clusters, i.e., where all sizes of enterprises co-exist. According to the UNIDO's classification, these can be distinguished into large enterprise based clusters and vertically integrated clusters. In the former, a cluster is established around a large unit or a few large units, with subcontracting or ancillarisation linkages between the small and the large units. The automobile cluster in Gurgaon in the state of Haryana is an example of this.

14.23 Vertically integrated clusters are those where the operations required in producing a finished product are divided and carried out separately by different units, most of which are SMEs. The Tiruppur garment cluster, the leather clusters of Chennai, Ambur and Vaniyambadi in Tamil Nadu are example of such vertical integration within the cluster as a whole.

14.24 Micro enterprises could be part of any of these kinds of clusters and in the Indian case, are seen in all kinds, although their operations and nature of linkages with other firms vary depending on the type of cluster. In a detailed study of 138 clusters, the UNIDO found that 76 were horizontal clusters, of which 72 were of the artisanal and craft type, only seven were large enterprise

based clusters and the remaining consisted of linkages between small-firms and between large and small firms to different degrees.

14.25 How important are these industrial clusters in the larger landscape of industrial production and more importantly from the point of view of the universe of informal employment? Some of them are so big that they produce upto 70 to 80 per cent of the total volume of that particular product produced in India. For example, the township of Panipat produces 75 per cent of the total blankets produced in the country. Similarly Tiruppur, a small municipal township in the Coimbatore district of Tamil Nadu contributes 80 per cent of the country's cotton hosiery exports (now it has been declared a corporation and district headquarters). The city of Agra with 800 registered and 6,000 unregistered small and cottage footwear production units, caters to both the domestic and international markets. Similarly Ludhiana in Punjab produces 95% of the country's woollen knitwear, 85 per cent of the country's sewing machines and 60 per cent of the nation's bicycle and bicycle parts.

14.26 From the NSSO surveys of Unorganised Manufacturing across different rounds that, we analysed in detail in Chapter 11, we saw that production for contract is a form that is prevalent in about a third of informal manufacturing and with the growth in Own Account Manufacturing, is likely to determine the existence of these kinds of units to a significant extent. A large part of such production for contract takes place in industrial clusters and involves the smallest sized microenterprises.

14.27 *The non-availability of a consistent database notwithstanding, what the aforementioned facts clearly demonstrate is that clustering is an important organizational form for microenterprises, whether in microenterprise-based clusters or others where larger firms dominate. Secondary studies show that whether it is in artisanal clusters, traditional industries or other sectors, clustering of enterprises is also seen to be taking place with different degrees of integration into value chains. The degree and kind of intervention of clusters into value chains depends on the kind of market that is being catered to, whether local, national or international.*

14.28 On the whole, the process of clustering in India is still at an infant stage. This is reflected in the dominance of artisanal clusters, mostly microenterprises with low productivity and wages, low exports, lack of education and marketing skills, primitive use of technology, high dependence on middlemen for marketing, low degree of inter-firm co-operation and specialization, and low external networks. Due to these factors, many micro and small enterprises are unable to take full advantages of clustering.

14.29 However, there are also examples of clusters of enterprises that are active and dynamic. This is reflected by skill improvement, technological upgrading, and successful penetration of domestic and export markets. A few of these enterprises use cutting-edge technologies in production and manage relationships with diverse enterprises and institutions within and outside clusters. Also, the findings show that many small enterprises in India have production linkages through sub-contracting systems with large enterprises. This is an important positive effect of clustering.

14.30 Micro and small enterprises have a strong presence in many of the clusters especially in textiles, ready-made garments, coir and coir products, gems and jewellery, leather and leather products. Bhilwara, Bhiwandi, Joshpur, Jetpur, Mysore, Palli, Panipat, Sanganer and Sambhalpur prominently figure in clusters of textile products. Alappuzha has a long and strong presence in coir and coir products. In recent times, a new and modern coir cluster has emerged in Pollachi in Tamil Nadu. Ahmedabad, Bangalore, Delhi and Mumbai have a strong presence in ready-made garments. In cotton hosiery, Tiruppur accounts for more than 80 percent of the country's exports; so is the situation of Ludhiana in woollen hosiery and knitwear. Surat, Jaipur and Tiruchirappalli have clusters of gems and jewellery mainly for exports. Leather and leather products are concentrated in Agra, Chennai, Howrah and Kanpur. A number of handicraft clusters can be found in many parts of the country. To this list we should also add the less well-known agro-processing and agro-industry clusters in many parts of the country such as those based on spices, bamboo, rubber and fruits.

Importance of cluster-oriented MSE development policies

14.31 In many countries, one of the significant contributors to the clusters' growth and development is the active participation of institutions (e.g., local universities/research institutions, local banks, large enterprises involved in sub-contracting, etc.) in market and product development, training, skill development, and financing among the micro and small enterprises. The participation of these institutions in promoting cluster development policies is certainly very helpful for the government in implementing its cluster development policies. With the support of these institutions, and given the collective benefits of a cluster, the probability of success of such policies with a cluster approach is higher than policies targeting individual enterprises in dispersed locations. Therefore, from a public policy perspective, the development of micro and small enterprises with a clustering approach is critical for effective and efficient ways to provide technical and management supports, training, and general facilities (equipments, tools and infrastructure) to a group of enterprises located in one place.

14.32 The evidence of cluster-oriented policies of micro and small enterprises in both developed and developing countries suggest some commonality in the role of government to improve demand and factor conditions, pro-innovation regulatory standards, and co-operation and complementarities among the enterprises in clusters.

14.33 While the role of the government varies across countries and sectors, the evidence from a host of countries suggest the following important catalytic roles of government to foster cluster-oriented development policies:

- (a) Take measures to eliminate barriers to local competition.

- (b) Attract domestic and foreign investment in and around the supported cluster.
- (c) Promote export of the cluster's products.
- (d) Encourage local government bodies to support the cluster.
- (e) Reduce regulatory uncertainty, stimulate early adoption and encourage innovation in product and production process.
- (f) Sponsor independent testing, product certification and rating services.
- (g) Buy the cluster's product.
- (h) Sponsor forums to bring together cluster participants.
- (i) Create a business friendly environment to attract suppliers and service providers from other locations.
- (j) Establish cluster-oriented free-trade zones, industrial parks or suppliers parks.
- (k) Create specialized education and training programmes.
- (l) Establish local universities research efforts in the cluster-related technologies.
- (m) Support cluster-specific information gathering and compilation.
- (n) Improve specialized transportation, communications and other infrastructure required by the cluster

MSE cluster development policies in India

14.34 The Government of India, supported by multilateral agencies like the UNIDO has adopted the cluster framework to intervene in the small scale sector³. Of late, it has also sought to highlight the differences between the 'small' and the 'micro' by redesignating 'The Small Industry Cluster Development Programme' as

3 The idea of cluster formation is not new in India. Ever since the Industrial Policy Resolution of 1948, successive Five-Year Plans and promotional schemes have tried to push growth poles. For instance, the First Five Year Plan had the Rural Industrial Estate Programme and the Village Artisan-Oriented Programme. The Second Five Year Plan had the Common Production Programme and the Pilot Project Programme. The Fourth Five Year Plan had the Rural Artisan Programme. The Fifth Five Year Plan had the District Industries Centre Programme and the Backward Area Scheme. The Sixth Five Year Plan had the Growth Centre Programme. The Eighth Five Year Plan had the Integrated Infrastructure Development Programme. And the Ninth Five Year Plan had the National Programme for Rural Industrialization.

'Micro and Small Enterprises Cluster Development Programme' since October 2007. It envisages a growth rate of 12 per cent for MSE sector during the Eleventh Five Year Plan 2007-12. A number of schemes have been devised in this regard. They include "....assistance for participation in international exhibitions and fairs and reimbursement for obtaining bar-code certification under its Market Development Assistance (MDA) scheme, other support measures such as organising training programmes on packaging for exports, assistance for technology upgradation under Credit Linked Capital Subsidy Scheme (CLCSS) and incentives for obtaining ISO/9000-14001.."⁴ During the year 2005-06, Indian MSE sector accounted for approximately 33 per cent of the total exports from the country.

CSIR and 'Centres of Excellence': Strategic linkages with clusters

14.35 The national laboratories of CSIR and other 'centres of excellence', both in public and private sectors, have been helping the industrial clusters in India in solving their technological and management problems. A few examples of such linkages/networks in promoting innovation activities in clusters are presented below.

14.36 The dynamism of the knitwear cluster in Tiruppur, Tamil Nadu led to the formation of R&D institutions specifically catering to the clusters. An important institutional development in Tiruppur is the emergence of collaboration between the Apparel Export Promotion Council (AEPC) and the South India Textile Research Association (SITRA) for establishing an R&D cum testing laboratory and training institute. More recently two of the major producers associations have set up training institutions to meet the growing skill requirements of the local knitwear industry.

14.37 In Chennai, the traders and producers of leather products are linked through a group of skilled leather technologists, generally belonging to prosperous castes, who also help them to obtain credit from banks. The services provided by the Central Leather Research Institute (CLRI), Chennai, have also played a very

significant role in solving the technical problems faced by these enterprises.

14.38 The Central Mechanical Engineering Research Institute (CMERI), Durgapur, helps the small-scale industrial clusters with the provision of the following services: technical guidance, sectoral training in particular fields, assistance in components or spare parts development and by acting as a link between large and small enterprises.

14.39 The National Institute of Science, Technology and Development (NISTADS), New Delhi, has set up a Science and Technology Field Station at Bankura, West Bengal. The Field Station has paid special attention to the artisan-oriented small-scale industries such as brass and bell metal, fishing hook and potteries sectors, and has provided services such as newer and better technologies, procurement of raw materials and assistance in marketing of the products.

Micro enterprises in Value Chains

14.40 When value chain linkages are restricted to the geographical boundaries of the country, they are referred to as Domestic Value Chains (DVC) and otherwise as Global Value Chains (GVC). These value chains very often consist of linkages between enterprises located in horizontal, vertical and mixed clusters. In the garment industry in India, a cluster such as Tiruppur produces output to cater to demand from the GVC whereas a significant part of production in Bangalore caters to the DVC, consisting of control by large garment retailers in the domestic market. In both cases, the ultimate buyers are mostly large firms, but in one case the market is mostly domestic whereas it is international in the other. This is true about the leather industry as well, where in a cluster like Agra, which supplied shoes for decades to the local and the domestic market, substantial parts of the cluster slowly made the transition to exclusive production catering to the GVC. All these clusters also have a large number of microenterprises which are linked to larger firms that are in turn linked to value chains, both domestic and global.

4 From <http://www.government.in/site/india-envisages-12-growth-for-mse-in-11th-plan/>

14.41 The features of production in different kinds of value chains are determined by the nature of markets for the final product, the number of large-firm producers or buyers for the final product, the number of levels through which the product produced by the smallest producers changes characteristics or hands before being finally sold and by who exerts power in the value chain. It is necessary for us to look at the evidence in this respect for the purpose of formulating policies for microenterprises that are clustered or are embedded in value chain relationships in India.

14.42 It has been seen that while industrial clustering has seen several success stories in terms of enhanced output and exports, it can also result in benefits being unevenly distributed between differently sized enterprises on the one hand and between enterprises and those working in them on the other. Examples of this are provided by the Tiruppur knitted garment cluster in Tamil Nadu and the Jaipur gems and jewellery cluster in Rajasthan, both of which are linked to GVCs. In both cases, the growth of exports from the sectors has been impressive and they contribute substantially to the overall growth of India's exports. Over a period of time, substantial industry-level and firm-level technological upgradation has also taken place, especially in Tiruppur, resulting in the realization of higher unit values for exports. At the same time, it is also common to see a combination of industrial upgrading and labour downgrading through informalisation of employment relations taking place together. i.e., there is a lack of a positive relationship between labour market outcomes and product market outcomes. Even in the most dynamic of clusters, upgrading in product markets has not led to improvements in labour markets. The only instances where labour markets have improved are cases where tight labour markets have forced firms to improve conditions. However, given the skill bias involved in export production, tight labour market conditions are found only for skilled workers, thereby aggravating labour market inequities. A detailed discussion of such issues is given below in the Case Studies.

14.43 It is also common to see differential upgrading between firms, where the smallest enterprises bear the brunt most often of fluctuations in demand, resulting in poor upgrading of facilities in these small enterprises,

stagnation or even very high rates of exit. Again, the garment industry's case that we have examined through NSS data in the previous chapter demonstrates this. We showed that the period of very high growth in garment exports was also accompanied by a major increase in the numbers of own-account enterprises or of home-based production as well as a decline in their productivity. Case studies of garment production in Delhi (CEC study) and in West Bengal corroborate the abysmal conditions of work and extended self-exploitation by these own-account enterprises.

14.44 What are the policy interventions that exist vis-à-vis enterprises that are clustered together and those that are linked up with value chains? First, there is the policy framework that has been evolved in India for the small scale sector and which have been directly relevant for these enterprises. Second, there are sectoral policies, incentives and interventions that have been drawn up to promote specific sectors and industries. Third, in more recent years, cluster development programmes have been introduced under different agencies.

14.45 What can we infer from experiences in India about how export orientation and linking up with global value chains have resulted in greater upgradation in clustered industries along with degradation of work and working conditions? First, the emphasis on cluster development through cluster development programmes has relegated the labour issues such as ensuring decent work and providing equal opportunity at work to the background. While efforts are underway to improve the real services provided to producers to improve their competitiveness in the global market, most of the MSE clusters suffer from a severe lack of social infrastructure. At present, labour has hardly any access to affordable and quality healthcare. Even sick leave is not available to labour in most of these enterprises. These clusters in general suffer from lack of good quality housing; In the more dynamic clusters like Tiruppur which have drawn large pools of migrant workers, the lack of such quality housing has led to a serious supply-demand mismatch resulting in higher rents, thus, depressing real wages. The emphasis on cluster development essentially strives to cater to the needs of the employers. Even among employers, we find that most policies benefit the set of

lead firms rather than the smaller firms tied to the lead firms as job workers.

14.46 Second, despite the fact that conditions of work and employment in such industries, especially where microenterprises are present, are poor, there are a few instances of improved conditions that can suggest possible directions for intervention. In many industries, it has been observed that under tight labour market conditions, workers tend to enjoy better wages. Labour turnover does affect the productivity of firms both in terms of loss of trained workers as well as through loss of time involved in recruiting replacements and training. In certain areas, shortage of skilled workers has forced garment firms to work with unions to retain workers, set up training institutions, and improve wage rates. However such market-influenced improvements tend to aggravate inequalities within the labour market as the unskilled workers tend to be relatively worse off.

14.47 Third, there are some instances of initiatives that have created room for optimism under current globalizing conditions. A federation of independent trade unions has been formed for some years that seek to intervene at levels other than the nation state. With the transnationalisation of production, the federation believes that intervention should be at multiple levels to ensure any degree of success. For the federation, the ideal institution to intervene is the global value chain. By forcing firms at one level in the value chain to offer better wages and working conditions, they hope to create a demonstration effect for workers in firms in other tiers to claim a better work environment. While they have been successful elsewhere like in Bangladesh, in India they work among the workers in garment factories in Bangalore. Importantly, the union combines work place organizing with organizing workers in their places of residence over livelihood issues as well like access to water, electricity, etc. While it is true that the factories where this union is active are large, it provides a possible avenue for intervention.

14.48 Fourth, another instance of improved work conditions has been due to enforcement of codes of conduct by buyers across different sectors. It is found that in case of lead firms who are serious about standards, there has been a marked improvement in the working conditions at least in firms that are directly linked with these buyers. The extent to which firms further down

the chain have benefited from these initiatives is not clear. Again, it is possible that such improvements can create demonstration effects. There is also the role played by the Handloom Board in providing good working conditions for weavers while simultaneously using these good labour conditions to signal to potential foreign buyers their ability to promote the welfare of workers. Buyers, influenced by such ethical work practices can provide a market for these products. Such synergetic functioning of labour and product markets are however rare.

Indian success stories and failures of cluster development policies

14.49 While we have limited data and studies to assess the success and failure of cluster development policies in India, a few indicative pointers from the existing studies are presented below.

Some success stories

14.50 A comprehensive development package including technical upgrading through the provision of a common service facility, export training, and investment in improvement of regional infrastructure helped the cluster to gradually develop export markets. Similar effects were brought forward by creating a small industrial estate combined with trade fair participation support.

14.51 There are however other factors that have significantly contributed to the aforementioned success stories: (a) strong local sector associations, (b) a strong role of trading houses in brokering and organizing exports, (c) innovations through linkages with R&D institutions.

14.52 There are also some examples of successful clusters that have developed virtually without public intervention.

Some failures

14.53 In many cases, cluster development policies in India have not been successful. The reasons for failure are the following.

First, there are certain inherent problems of quality dilution in industrial clusters, with the result that products of these clusters often fail to compete in national and international markets.

Second, neglecting existing and potential market linkages of clusters is one reason for the failure.

Prerequisite for successful cluster development is the cluster's potential to access growing and proliferating markets. The centralized policymaking is not based on diagnosis of each cluster's specific potentials and constraints, and the cluster's existing and potential market linkage.

Third, there seems to be lack of trust and cooperation (e.g., between artisan and traders) that hamper collective action.

Fourth, neglecting or even eroding self-help organization potential of micro and small enterprises is also a reason for the failure. The facilities provided by the government remained under government management and budget, with a lack of ownership by enterprises.

Fifth, limited support from local government or private organizations is another reason for the failure⁵. Small clusters in rural areas or remote areas, and artisanal clusters become hard-hit. In addition, these clusters do not have access to potentially supporting private, public or hybrid institutions such as banks and training institutes, universities or research organizations.

Case Studies for Value Chains in Indian Small Industries

14.54 Below, we provide three case studies for value chain in Indian small industries. Box 14.1 deals with Textiles and Garments, Box 14.2 presents a brief discussion about Gems and Jewellery, and Box 14.3 focuses on Auto Components.

Box 14.1: Textiles and Garments

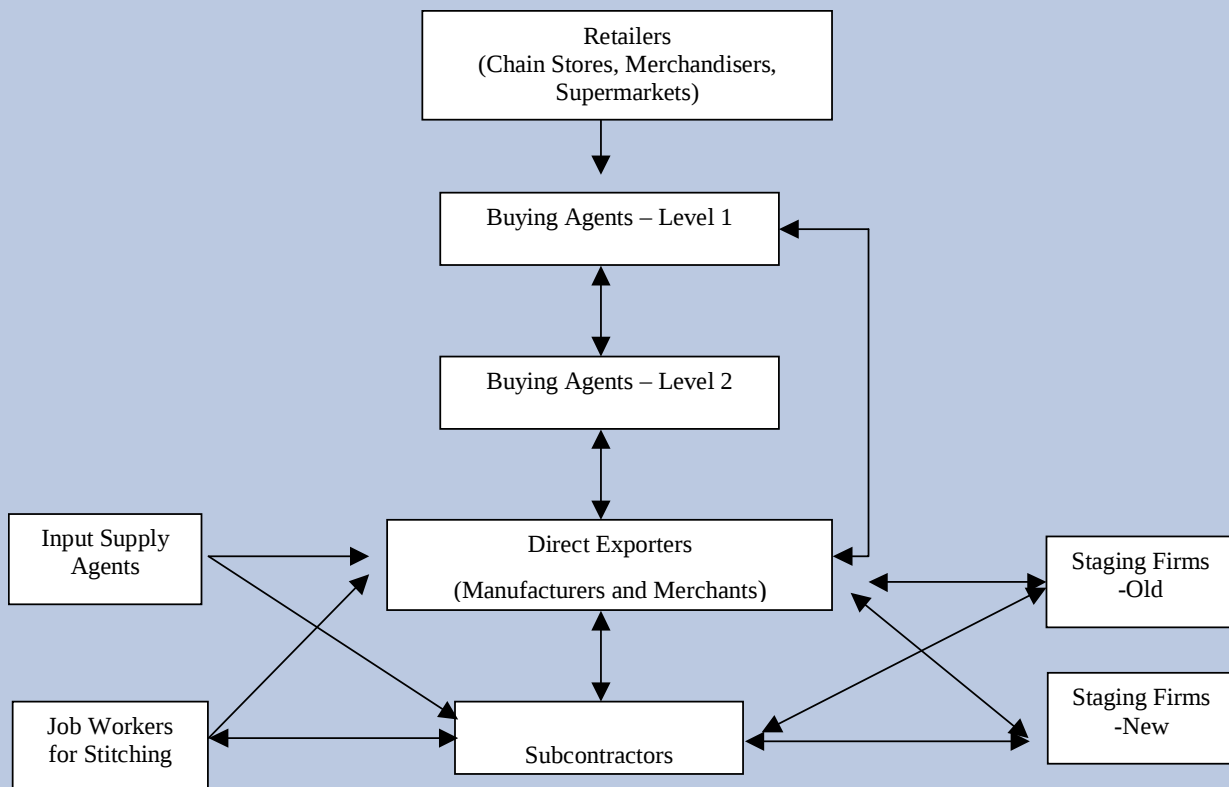
Apart from the fact that textiles and garments are one of the more numerous among the clusters, both modern and artisanal, they also account for a large proportion of non-farm employment in the country. Further, several of them have responded pro-actively to global market impulses and are at the forefront of the country's export growth performance. Tiruppur, a cotton knitwear cluster, for instance, accounts for nearly 80% of the country's cotton knitwear exports and generates employment in the range of over three lakhs for the past 15-20 years. Panipat, another home furnishings cluster accounts for 75% of the total blankets produced in the country and is also one of the biggest export centres of the product. Karur, and Bhavani and Kumrapalayam in Tamil Nadu are again major centres of production of home furnishings and carpets, both for the domestic and the global markets. Ludhiana in Punjab, again, consists of several small firms networked to produce most of the country's woollen knitwear output and 85% of the country's sewing machines. These clusters consist of a dense network of subcontractors of several layers and firms that specialise in specific textile processes like dyeing, printing, embroidery, etc. The MSEs in these clusters definitely have better access to markets and buyers than firms located in less vibrant clusters. What are the key features of these clusters? What sustains their dynamism and what is the nature of the labour markets in these clusters? We address these questions through a case study of the Tiruppur knitwear cluster.⁶

The Tiruppur cluster is a dense network of over 5000 firms specialising in different stages of garment production, with different links to markets, internal and external, and employing large number of migrant and women workers. Most firms are small, many operations are undertaken at the household level, and only about 600 direct export firms and a few big subcontractors come under the formal sector regulatory framework. Being a buyer driven value chain, the cluster caters to several leading retail chains and supermarkets particularly in Europe and USA. The following figure provides a description of the various inter-firm networks that animate the cluster and its links to the global garment value chain.

5 In the Government today, there are several Ministries/Departments that have their own programmes of pursuing clusters and building up connectivity of activities with markets and social overhead facilities, as well as information. Ministries/Departments of Industrial Policy & Promotion, Small Scale Industries and Agro & Rural Industries, Rural Development, Panchayati Raj, Commerce, Food Processing Industries, Textiles, Information Technology, as well as Science and Technology, all of them have such programmes. Earlier attempts at cluster formation have not always been successful, as they often tended to be ad hoc and piecemeal and tried to induce the industrial units to set up operations in green field areas. This would have required huge investments in physical and social infrastructure and development of skills for the new units to produce with efficiency. If infrastructure is not developed and development of skills remains a question mark, it is doubtful whether marketing interventions alone will suffice.

6 The discussion of this case is entirely drawn from Vijayabaskar (2001).

Tiruppur's Location in the Global Garment Value Chain



Though there are various firm types, firms that are directly tied to the global chain are the direct exporters who interact with buyers. Hence, they are the pivot around which production in rest of the firm types orchestrate.

Interestingly, prior to movement to the export market, Tiruppur was a major centre of production for the domestic market. During that phase of growth, most firms were large firms and the workers were highly unionised. With the movement to the export market, several changes have taken place in the labour market partly due to changes in product markets. A major change is the high seasonality in demand. Cotton knitwear is used only in the summer months in the importing countries, EU and USA being its biggest markets. Production in Tiruppur is therefore seasonal though of late, some of the bigger firms have tried, with moderate success, to offset such seasonality by diversifying into other segments like woolen wear, woven, synthetic, etc. Tiruppur caters to low volumes and design-intensive markets more cost-effectively compared to its competitors like China and Bangladesh. Firms in these countries are organised on large-scale lines, rendering them more amenable to standardised mass production. Within knitwear, Tiruppur tends to specialize in children's and women's casual wear which are more subject to fashion change. Apart from increase in the number of tasks required and accompanying skills, the rise of casual wear production also has led to wide variation in the quantity of different orders. Such quantitative flexibility has been met by greater recourse to subcontracting.

The cluster has also increased the average value realised per garment, indicating process and product upgrading. From roughly around 1 USD per piece in the 1980s, it has moved to an average of 2 USD per piece since the early 1990s, and in 2003/04, the average unit value was around 2.4 USD. This product upgrading has been accompanied by improvements in processes as well. Imported machinery has replaced the local machinery extant in the previous phase in stitching. Ancillary firms like dyeing, printing and embroidery increasingly use latest technologies

based on computerised control and monitoring systems. Of course, given the simultaneity of production for different segments, these technologies are used in conjunction with previous ones so as to cater to different market segments. The availability of a range of technologies is therefore another key source of flexibility.

The movement to women's and children's wear also implies that the designs are subject to rapid changes. The product markets to which Tiruppur caters therefore have definitely become 'flexible' and volatile over the years. Tiruppur's competitive advantage lies in its ability to produce small volume orders involving complicated designs as well as large orders simultaneously at lower cost and time. The highly flexible nature of product markets exerts considerable influence on the nature of production organization. It must, however, also be stated that government policies too have shaped organizational structure which in turn has enabled producers to efficiently cater to such niche segments. Given the diversity and flexibility in the output markets, workers in Tiruppur can be expected to develop multiple skills capable of undertaking various operations as and when specific orders require. The growth in quality control requirements once again, is in conjunction with movement to a 'high road' as it requires cooperation from labour and subcontractors to ensure such output.

In Tiruppur, however, flexibility has been more in terms of numerical flexibility, with a growing casualisation of the labour force and rise in just-in-time recruitment. Labour costs therefore vary with output, yielding substantial benefits to capital operating under uncertain demand conditions. A flexible workforce has been created by drawing into pools of labour reserves like women workers and migrant workers. The diversification of product profile and frequent changes in process has led to a greater technical division of labour, with workers who were earlier capable of undertaking multiple tasks transformed into increasingly mono-skilled workers who specialise in one or fewer tasks than before. Simultaneously, there has also been a greater social division of labour with the breaking up of the earlier vertically integrated firm into smaller firms specialising in specific stages of the production process. Though nominal wages have increased, particularly for the skilled workers during this phase, real wage rates too have stagnated in the cluster despite the high growth and product upgrading within the value chain. The rise in nominal wages is primarily a result of tight labour markets given the sudden spurt in growth and the surge in labour demand. The hikes in wage rates have also been accompanied by greater insecurity of employment, much less social protection and reduced scope for collective action compared to the earlier phases. Only workers employed directly in top 20 firms enjoy access to social security benefits like ESI, gratuity and provident fund.

Despite the availability of such a flexible workforce, exporters continue to stress upon the need to implement fresh labour laws so as to enable them to exercise greater control over labour. The need for a more flexible workforce however, portends a serious threat to working conditions of the garment workers. Leading exporters have however initiated efforts to offset seasonality by diversifying into woollen and synthetic wear, and have also moved into branding by floating a common brand for their garments.

Firms in Tiruppur do face constraints to move into designing and marketing, given their distance, cultural and spatial, from final markets. However, of late, an attempt has been initiated by a section of big exporters to form a common brand (Tiruppur) and use the brand to sell their product directly either to retailers or to consumers. Given the huge sunk costs involved in such an exercise, the project is yet to gain broad based support. Also, the risks are high given the stiff competition the cluster would face from established retailers and brand leaders. The example of Hong Kong based garment exporters who have managed to establish their own brand names in the global market offers room for optimism. The move, if successful, definitely offers an important breakthrough in upgrading prospects for the exporters. Production of more value-added garments is a distinct possibility. Firms do not face any technical constraints, and the cluster as a whole is technologically well equipped to diversify into such segments. However, informants aver that Tiruppur's specialization in a specific segment has fostered a

perception that it cannot produce other types of garments efficiently. Such perceptions may continue to act as barriers for long.

As discussed earlier, the government in collaboration with producer associations has played an active role in the provision of a few critical real services. While these services appear to have helped the exporters in the cluster, they do not have a direct bearing on the workforce. Even courses in fashion technology or merchandising are taken up by the more educated segments of the population, and do not benefit the less skilled workers. No efforts have been undertaken to improve the skill profile of this segment.

Wage rates in direct export firms are consistently higher for all jobs, though the magnitudes vary. However, the same in domestic firms tend to be less attractive compared to the export firms. If we consider the fact that employment offered in domestic firms is steadier and of longer duration, we can understand the ability of local firms to source labour at lower wage rates compared to export firms. This pattern of wage differential is also evident when we consider wage rates in other sectors of informal activity in the region. In powerlooms, for instance, wage rates are less compared to agricultural wage labour or construction work. While the latter jobs offer only erratic employment, workers prefer to work in powerloom units.

Insecure employment tenure forces workers to work long hours during peak season to compensate for off-season unemployment, rendering worker mobilisation difficult. Workers, especially tailors and their helpers, work for 24 to 36 hours at a stretch when delivery schedules approach. Given uncertain employment, workers too prefer to work such long hours to earn enough to compensate for its lack during the off-season. Another factor is the large scale use of migrant labour, especially that of temporary migrant workers. The unionisation levels have declined and in 2003, the trade union membership did not exceed 10000 members among a workforce of over 2 lakh. Even the wage rates fixed after negotiation by trade unions are not adhered to by most firms in Tiruppur. An important aspect of work for a flexible output market is its intensity. Given volatile product markets and fashion constraints, sticking to delivery schedules are important in ensuring its competitive edge in the world market.

Prior to the export phase and in the initial years of exports, when the output market was more stable, the labour market did correspond better to the ideal industrial district model with regard to the presence of employment security, polyvalent skills and high worker mobility, though the same cannot be said for wage rates. However, interestingly, with a growing flexibility in the product market, the labour market has witnessed greater segmentation with reduced scope for developing multiple skills and growth of barriers to vertical mobility in traditional occupations. The increase in demand for labour has been met by use of female and more child labour and large scale immigration. Most women and migrant workers are employed in jobs with little scope to learn new skills and move upward. More than 80 per cent of workers are casual workers with few sources of social security.

Workers in the subcontracting units suffer from greater unemployment compared to those in direct export firms. Interestingly, these are the firms that offer the biggest share of employment in the export market. This tendency is very much in line with the way production is organised for the export market. Given the highly flexible nature of demand, direct export firms outsource to pass on fluctuations in demand to the sub contractors. This process renders the subcontractors' output highly related to fluctuations in the product market. Most subcontractors, particularly the smaller firms work for only seven to eight months a year. The employment that such firms generate is, therefore, definitely less compared to the relatively more stable production of the direct export firms.

Box 14.2: Gems and Jewelry

Once again a buyer driven chain dominated by retailers, the gems and jewelry sector is one of the fastest growing sectors in the country, also yielding substantial foreign exchange resources. Since the early 1970s, there has been a steady growth of the industry with polished \$12.33 billion worth of diamond exports for the year 2005. India at present produces 55 percent of the world diamond polished market by value, 82 percent by carats, and 95 percent by number of pieces. The sector is also a major employer with about two million employees spread across over one lakh small and micro enterprises in different clusters in the country. This sector too is clustered in several locations in the country with Surat being the most known centre. Studies also refer to firms having moved up the value chain in this sector. Initially, Indian firms used to specialize in cutting and polishing small pieces, but now many firms have developed capabilities to process larger rough and fancy shapes. Many have also upgraded into patenting cuts. Recently, the Indian Institute of Gems & Jewellery, has been set up in Mumbai to train students in high end skills. Once again, this product market upgrading has not translated into benefits for unskilled labour. While use of child labour has been observed in several of these clusters like in Surat and Bhavnagar, a recent report shows that the incidence of child labour has come down in recent years. That however does not imply improvement in the quality of work and employment. Poor working conditions continue to be reported in these clusters. In the artificial gem cutting cluster in a village near Tiruchirapalli in Tamil Nadu, Kapadia (1995) observes the rise of new forms of bondage among workers with the dynamic movement of the cluster to global markets. Further, kinship ties allow for labour to be tied to capital without giving rise to progressive forms of cooperation. She also notes the decline in female employment with use of more sophisticated machinery.

Though the labour costs account for only one percent of the total cost, working conditions are poor. Workplaces are poorly lit and ventilated and many workers suffer from ailments like TB, kidney malfunctioning, lung diseases and joint ailments due to exposure to crystalline and amorphous silica. Nearly 95 per cent of the workers are not covered by any unions and effort to organise has been met with strong response from the employers. Caste and gender too segment the labour market, allowing for payment of low wages and perpetuation of poor working conditions. However, the movement into more value adding segments has led to creation of more skilled jobs as evident from the formation of a training institute. However, this does not imply an overall improvement in work conditions for all segments of the workforce. It has not translated into improvements for the less skilled workers, particularly women workers.⁷ This once again points to the need for specific training programmes for traditional less skilled workers that allow them to be a part of the upgrading process.

Box 14.3: Auto Components

One of the sectors that have witnessed massive changes and dynamism is the auto sector both in terms of the domestic market and export orientation. While there has been a proliferation of firms, particularly global players, in the last two decades to cater to the fast growing domestic market segment, a number of firms have also moved to the export market, especially auto component producers. The auto industry is a classic case of a producer driven commodity chain led by big firms that source a large number of components from different locations across the globe. But here, unlike some of the other sectors like leather and gems and jewelry where the dynamism is primarily derived from their global market orientation, the sector has

⁷ Information for the gems and jewelry sector are primarily drawn from Debdas Bannerji (2005) and <http://www.ilo.org/public/english/dialogue/actrav/child/publ/indiadia.htm>

responded well to the growth in domestic markets as well. Apart from such MNCs, there are also several domestic firms that have built strong links with component suppliers across different tiers. Once again, auto production is clustered in India, with Chennai, Pune, Hosur/Bangalore, Noida and Coimbatore being major centres. Apart from 400 large firms in the organised sector, there are over 10,000 firms in the unorganised sector. During the period 2001-2 to 2006-7, the Indian component industry grew at an annual compound growth rate of 20.32 per cent, with exports growing 23.56 per cent. Component production is also undertaken in Ludhiana, Jullandhar and Jamshedpur.

The share of exports in component production is more than 20 per cent of total production in 2004-05. In terms of upgrading, we find the rise of original equipment manufacturers, as well as improvements in quality and qualifying for global technical standards. Steel forgings, crank shafts, brakes and fasteners are some of the parts that are being supplied by domestic firms to MNCs and to other local firms. Awasthi (2007) compares two firms producing similar components, one embedded in a global value chain, and the other, producing for the domestic market. He observes use of more skilled workers and better working conditions in the export firm in terms of wage shares, but the export firm had a much smaller share. This observation once again goes to confirm the skill bias inherent to recent technological changes. The levels of training too are different as the firm could send some of the apprentices to be trained by the parent firm in Germany. Obviously such avenues are not available for the firm producing for the domestic market. Importantly, the authors find many firms employing workers on a permanent basis, even those in the unorganised sector. They attribute this to the tight labour market conditions, particularly for the skilled and experienced.

Suresh (2007), in his study of small firms and Tier 2 or 3 firms in Tamil Nadu finds that the workers are paid poorly forcing many of them to leave the sector in search of better opportunities. He also observes a greater segmentation of the labour market with firms relying more on contract workers and casual workers, undermining the power of regular employees. Such flexible labour regimes are critical to maintain the cost competitiveness of Tier 2 and 3 suppliers given the low margins they have vis-à-vis the firms above them in the value chain. Importantly, he points out that labour turnover also implies the loss of critical skills for any upgrading prospects that these firms may have. The extent to which cost pressures along the value chain are responsible for the payment of less than even the prevailing market wage rates is however not clear. Uma Rani (2006) too observes the growing share of casual or temporary workers in the auto component clusters of Noida, Chennai, Coimbatore and Pune regions over a period of time. This has led to a decline in the social security benefits for the workers. However, this is a period when the firms experienced substantial growth supplying to both domestic and MNC lead firms. Interestingly, this is also a period when the workers have been exposed to use of new machines and trained to operate the new machines. Parent firms were also involved in improving the capability of the supplier firms by supporting them in the use of new machines, use of new processes and at times even to develop a new product. Once again, it appears that this upgrading in processes has not been accompanied by improvements in working conditions although it has aided the process of skill formation.

The use of contract and casual employees are found even in the case of lead firms. MNCs which have set up manufacturing plants too appear to rely more on contract labour. Trade unionists point out that the employers are extremely reluctant to employ workers on a permanent basis. We also find that movement into global markets has helped Tier 1 firms to upgrade more than those in the lower rungs. Also, new cost optimisation practices like 'just in time' production strategies generates tremendous pressures for firms downstream as these cost reductions are translated into greater work intensities for workers in these firms.

Interfirm Linkages in Micro-enterprises: A Summing Up

14.55 This chapter has laid out two ways in which microenterprises in India have been involved in inter-firm linkages, through their presence in industrial clusters and by their involvement in value chains, both domestic and global. These two ways are not conceived as watertight compartments, but are separated for analytical purpose to understand the dynamics of linkages. It has been seen that clustering is an important form of industrial organisation for microenterprises, numerically as well as in terms of range of manufacturing activities. The universe of informal production is thus to a significant extent characterised by industrial clustering, the understanding of which is essential for policy purposes.

14.56 Microenterprises are also involved, in a large number of industries, in value chains, catering to the domestic as well as the international market. Value chain linkages result in opportunities as well as severe vulnerabilities for microenterprises and the people working in them. Very often, the vagaries and volatility of long distance markets, whether national or international, tend to get passed on to these enterprises. In other cases, even if enterprises do well, vulnerabilities and poor conditions are experienced by the people working in them. In any case, the possible interventions are those which recognise a group approach for enterprises and the needs of all stakeholders, including labour. There are instances in which positive results have come about as a result of interventions that are both market led as well as public policy oriented. These examples, from India, as well as from other developing countries, need to be studied and recommendations made.

Policy Implications

14.57 The analysis in this chapter suggests that there are three types of clusters in India. The first one is called the “artisanal” cluster, which dominate clusters in India, indicating that the process of clustering in the country is still at an infant stage. This type of cluster displays many characteristics of informal sector, with level of productivity and wages being much lower than those dominated by other clusters. The second type is called “traditional” clusters. The third type is modern or ‘active’ clusters

which have developed rapidly in terms of skills improvement, technological upgrading, and successful penetration of domestic and export markets.

14.58 As in other countries, MSE development policies with a clustering approach are important from a public policy perspective in India. This strategy makes it more effective and more efficient for government to provide technical assistance and general facilities/services to a group of firms in one place than to individual firms in dispersed locations.

14.59 Both formal and informal institutions have played a role in the emergence and sustenance of clusters. However, in many cases, cluster development policies in India have not been successful. Most failures could be attributed to three factors: neglect of cluster linkage to the markets, neglect/erosion of SMEs’ self-organization potential and limited support from local government and private organizations.

14.60 The case studies of value chains in Indian small industries suggest that insecure working conditions, predominance of casual employment, low wages, and lack of adequate intervention in addressing the quality of work and employment are prevalent.

14.61 To increase the chances of long-term success of clusters, policies and programmes need to be strengthened with a focus on creating the conditions that induce the formation and accumulation of human and social capital and increase trust among the key players. Therefore, a national commitment with appropriate legislative and incentive systems is essential to nurture innovation and foster collaboration among the MSE-clustered enterprises and both public and private sectors.

The NCEUS Proposal for Growth Poles

14.62 In view of the aforementioned detailed discussion on industrial clusters, including the problems and challenges facing the micro enterprises in the informal sector, the Commission proposes the development and creation of Growth Poles moving beyond a simple cluster approach.

14.63 The Commission commends the Cluster Development Programme (CDP) initiated by the

Ministry of MSME and some other Ministries (e.g. Textiles) in recent times. A cluster approach should be in a position to address some of the basic problems in a cost effective manner although enterprises outside the clusters also warrant both promotional and protective interventions for their development. However, the CDP is too small a programme given the large number of clusters in the country. At present most of the schemes under the CDP are for infrastructure development that needs to be corrected by a balanced approach to a number of critical problems adumbrated here. Conspicuous by its absence is the social infrastructure elements including the conditions of work, skill up-gradation and development, housing and sanitation and similar other dimensions that would enhance the capabilities of workers and their families ultimately contributing to the enhancement of labour productivity.

14.64 While CDP has much to be commended, the Commission has been of the view that there is need for going beyond the cluster focus. One way to do so is to move towards development of Cluster-Based Growth Poles (CBGP) in the country. When this idea was proposed to the Government of India in early 2005, it was accepted in principle but wanted some empirical testing through selected pilot programmes. As we shall see later, these pilot programmes are now ready with Detailed Project Reports.

14.65 The Commission endorses the widely held view that enterprises and establishments in the Indian economy need a 'level playing field' especially when a large proportion of the units are too small to access raw materials, credit, technology and markets at costs that are comparable to large units. They therefore warrant a strategy of 'levelling up' so that their contribution to the much needed employment objective is complemented by greater efficiency thus ensuring a level of living that is considered decent. Viewed in this perspective the creation of Special Economic Zones (SEZs) that manifestly benefits the large corporate entities is a case of not only 'betting on the strong' but one of creating a 'special playing field' for the already mighty. We therefore argue for a CBGP strategy that would indeed benefit the vast micro and small enterprises in the economy and contribute, even if modestly, to the creation of a much needed 'level playing field'.

14.66 Our argument here is based on the relevance of an industrial policy but one that should be directed to strengthen the numerous micro and small enterprises and establishments to enhance their competitiveness and enhance their capacity to negotiate in an increasingly globalised environment and contribute to growth as well as employment. This is best done by selecting areas/regions with clusters of producing and servicing units and developing them into what may be called Growth Poles. The NCEUS has therefore proposed a plan for development of Growth Poles in different parts of our country, based on clusters of small and micro enterprises, most of which belong to the unorganized and informal sector. The record of employment generation in our economy especially in the post reforms period shows very little increase of employment in the organized manufacturing sector. For example, during the period 1999-00 and 2004-05, a total of 60.7 million workers were added to the total workforce. Of these 8.0 million were absorbed by the organised sector. However, the number of workers with job and social security did not increase but registered a marginal decline of 0.2 million. Thus the entire addition in the organised sector workforce was absorbed in the form of informal workers. The balance of 52.2 million workers was absorbed by the unorganised sector. Therefore, any programme for increasing employment in our country will necessarily have to depend upon the ways of transforming the activities in the unorganized sector into efficient producing and servicing units to assure productive employment generation.

14.67 From the point of transforming the micro and small entities into efficient units of production and servicing we do acknowledge the need for a strategy that should accord some 'special' treatment to those located in clusters in order to realise external economies, backward and forward linkages, and collective demand for physical and social infrastructure. Instead of creating 'special enclaves' for the big and the strong on freshly acquired land, we realise that a hard look is warranted towards areas that have spawned clusters of single products or multi-products and services. In this way, the attempt should be to strengthen the initial economic advantages of these clusters such as availability of highly skilled labour force (e.g. handloom or jewellery-making), access

to raw materials (e.g. rubber) or proximity to natural resources and/or infrastructure facilities such as ports.

14.68 Thus, the Commission takes a view that by identifying a set of clusters and designating them as Growth Poles in terms of a specified region (say 30 to 100 sq. kms), a strategy be formulated to develop groups of small units of production and services to make them competitive in a liberalised domestic and world economy while maximising employment per unit of investment. Such Growth Poles are supposed to be an agglomeration of clusters of small and micro units of interdependent activities, generating external economies for each other and creating demand for common services, such as power, transport, communication, warehouse and the other facilities of physical infrastructure on the one hand and training in skills, quality testing, banking, IT services, market information and related services of social infrastructure on the other.

14.69 The proposed Growth Poles will have the following objectives:

- a. To expand the production and employment in the unorganized enterprises in clusters around select existing clusters of industrial activities and services and encourage the formation of new clusters.
- b. To integrate these unorganized units into the process of mainstream economic growth through the creation of markets and the use of market-related incentives with only promotional assistance of the government.
- c. To spread industrialization outside the large industrial areas through growth in the productivity and efficiency in the unorganized sector through small and micro enterprises and rural industrialization. Since the unorganized sector accounts for more than 90 per cent of the country's

workforce, this programme would ensure the highest possible employment generation in the country in the next few years.

14.70 In the Growth Poles, the government would make a major concerted effort of integrating different initiatives pursued by different ministries and agencies and build on their inter-dependence. They will start with existing clusters of different activities within a proximate geographical location, develop their strengths and interdependence, and build up their connectivity of road, transport and power, as well as knowledge, information technology, etc. The Growth Poles would then, induce new clusters of different activities, including those of artisans, handicrafts, food processing, horticultural, export products and village industries around existing clusters.

14.71 These Growth Poles could also incorporate the concept of PURA (Provision of Urban facilities in Rural Areas) a recent initiative of the Government to provide urban facilities in the rural areas⁸. In that case they could utilize common services of education, health, sanitation, housing, water etc. all of which would improve the viability and productivity of all these actions together. However, the decision to incorporate PURA has to be based on a national policy of urban development and use of land where the social opportunity cost of land has to be fully taken into account. However, it needs to be noted that the case for Growth Pole is not dependent on their association within PURA. They can be viable on their own, based on their agglomeration economies and incentives for development of infant industries.

14.72 The units in the Growth Poles are necessarily 'infant' with little capital in their command. Their growth and improvement in return involves the use of technologies that can bring increasing returns to scale of production. Moreover, improved prospects for such units are linked to the utilisation of economies of scale in marketing,

8 The PURA concept envisages four forms of connectivity - road transport and power connectivity, electronic connectivity, knowledge connectivity and market connectivity within an area circumscribed by a perimeter of 30 kms. The scheme formulated by the Planning Commission/Ministry of Rural Development has made a significant departure from the original concept developed by Technology Information Forecasting Assessment Council (TIFAC) under Dr. A.P.J. Abdul Kalam by giving primacy to the objective of backward area development. In the Growth Poles, the selection criteria will emphasize the synergy of industrial and service clusters with their environs and the potential for employment generation. Within a growth pole, it is envisaged to develop or integrate a number of clusters of different activities surrounded by a periphery following the PURA model building up urban facilities and services. As a result the activities would enjoy not only the external economies of interdependence but also the substantial lowering of transaction costs from using common facilities of physical and social infrastructure.

exports etc. through different organisational forms. If clusters of such units with forward and backward linkages are located together, their viability will improve and will attract the common infrastructure service providers to establish and create facilities for generating power, providing transport and communication services, as well as warehousing, cold storage facilities and supplying IT, credit and banking and training facilities at commercial cost. As such services are made available, the viability of these units will further improve and more and more clusters of similar and multi-product activities will come about using their production inter-linkages and reaping the benefits of common services from the infrastructure. Units assisting these unorganised units in marketing and exports will also be attracted to these centres. The Growth Poles will then continuously expand, increasing output and employment.

14.73 Once the Growth Poles are developed, the units operating there will be fully sustainable by market forces. However, at the initial phase, like all infant industries, they will need public support. In that stage, if these Growth Poles receive SEZ-type treatment, it will make a significant contribution.

Incentives for Growth Poles

14.74 First, the units operating in these Growth Poles of cluster of small and micro units should receive the same fiscal incentives as those operating in SEZ. The developers and infrastructure service providers should also get similar benefits. Such support would be much more justifiable than the support received by the bigger and stronger units in SEZs.

14.75 Secondly, the actual fiscal cost of such support will not be very large, because most of these small and micro units do not pay much tax or duties now and may be liable to pay such taxes only after they reach a certain stage of development. A promise that they will receive such benefits after that for an extended period, will improve the attractiveness of setting up such operations in the Growth Poles. The developers and the infrastructure providers will be playing a promotional role and a promise of fiscal incentive will help to persuade them to operate in these areas, may be with some public sharing of the risks, through joint venture or public private partnership. In the NCEUS model, the Growth Poles are supposed to be promoted and developed by **Independent**

Authorities. Such authorities could be corporations, or private-public partnership organizations with a responsibility of attracting the small and micro units into the Growth Poles and organizing their activities with the help of supporting services. Even when they do not themselves supply infrastructure services of power, transport, communication, IT and marketing, warehousing and other facilities, they can attract other providers, public or private, to operate in these areas. If the SEZ benefits are available to all these stakeholders, it will significantly help this process of the formation of Growth Poles.

14.76 Further, if the developers can promote export of these products, they should get all the benefits of exports available to SEZ. Such exports can be supplied from the Growth Poles themselves. But it should be possible to extend this facility to other exporting companies, operating anywhere in India, outside the Growth Poles, provided they use a substantial amount of the products generated in these Growth Poles, say 75 per cent, of the value of exports. A subsidy or fiscal concession for export in this area would be fully justified, because their products will be non-traditional, requiring both marketing and designing development in initial phase of their entry into the export markets. In addition to this, the social value of the export would be much larger than foreign exchange earning, because of their impact on employment and poverty reduction.

14.77 Indeed, the operating units in the Growth Poles should receive “deemed exports treatment”, for their products, even if these products are sold in the domestic market. This is because in India, today, the social value of foreign exchange is no different from the market value of the rupee earned in the domestic tariff area, especially when these products have a large impact on employment and poverty reduction. To neutralize the revenue loss and transfer of units from the domestic tariff areas to Growth Poles for getting the export benefits, it may be necessary to impose a duty equivalent to the import duties on the products of Growth Poles, sold in the domestic market. But there is no need to put any cap on that and the unit should be allowed to sell 100 per cent of the products outside the Growth Poles by paying their import-equivalent duties.

14.78 Finally, regarding the issues of land acquisition, it must be noted, as we argued above, the additional land

required for the purpose of Growth Poles will not be large because initially the Growth Poles will have to be located within the already existing production places of the small and micro units, supplemented by small plots of land to locate additional units for forming the clusters. Similarly, the provision of infrastructure services will require few acres of land, especially if the Growth Poles are located near some power plants or highways.

Prototype of Growth Pole

14.79 Based on the above concept of Growth Pole, NCEUS in close collaboration with the Ministry of MSME initiated preparation of detailed project reports for Pilot Growth Pole Projects in six states namely, Rajasthan, West Bengal, Kerala, Assam, Uttarakhand and Chhattisgarh. Detailed Project Reports (DPRs) have now been prepared. 'In principle' approval has also been granted to these Growth Pole pilot projects. The Commission is of the view that the experience gained in the preparation of these DPRs could serve as a model to be replicated elsewhere. While the core industrial units in these areas are the foundation on which other parameters are woven, each Growth Pole has a minimum standard requirement of both social and physical infrastructure. To put these in place financial and human resources are to be accounted for.

14.80 During the preparation of the DPRs, it was realised that besides promoting the existing sectors/activities, there is scope for adding new areas of growth within a growth pole region. For example, Sikandra Growth Pole in Rajasthan has the potential to promote, in addition to the existing cluster based activities of stone, carpet and leather, the development of tourism, dairy, agro-processing, brass ware and wood. Similarly Chamoli Growth Pole in Uttarakhand will add to new activities like livestock and handicraft development, besides promoting existing tourism and horticulture. The Kollam Growth Pole Project in Kerala envisages promotion of new activities like tourism, lake development, and handicrafts over and above the existing sectors of cashew, fisheries, and coir. So is the case with other projects. The population of the growth pole regions is about 5 lakhs except in the case of Chamoli where it is only over a lakh.

Expected Impact in the Pilot Growth Poles

14.81 The impact of the growth pole pilot projects in terms of the increase in employment both direct and indirect, increase in income, changes in the GDP of the region and other socio-economic benefits have been detailed in the DPRs submitted by the state governments. The total cost of the project is as low as Rs. 127 crores in the case of Champa, Chhattisgarh and as high as Rs. 401 crores in the case of Howrah, West Bengal. The average cost of the project comes to Rs.242 crores. All the projects envisage addition to employment opportunities after growth pole interventions. Highest growth in employment is in the case of Howrah (74975) and lowest in the case of South-West Kamrup in Assam (24608). The average addition to employment per growth pole is 42549 persons. Investment per additional employment is the highest in the case of South-West Kamrup project at Rs.1.25 lakhs and the lowest at Rs. 24 thousand in the case of Champa project, with average cost per additional employment coming to Rs.64 thousand.

14.82 All the six projects show increase in income per person with the highest growth of 230 per cent in the case of Chamoli Project and the lowest growth of 69 per cent in Sikandra Project. The average growth in income is 145 per cent during the period of 5 years. Similarly, all these projects indicate likely growth in productivity, the highest being 71 per cent in the case of Howrah Project and the lowest being 8 per cent in the case of Champa Project. Average increase in productivity per project is estimated at 46 per cent during the period of five years.

14.83 As a result of growth pole interventions, the GDP of all the growth pole project area is estimated to rise, which is as high as Rs.922 crores per annum in the case of Champa project and as low as Rs.69 crores per annum in the case of Kollam project. The average additional increase in GDP per project is estimated at Rs.320 crores per year after the lapse of 5 years from the days of intervention. All the projects envisage several social benefits to the growth pole regions in terms of improved work force participation arising out of skill development, reduced disguised unemployment, migration of workers from low wage areas to the growth pole areas,

improvement in literacy and health conditions, increased size of the market, improved infrastructure, etc. The most important social impact is envisaged in the form of empowerment of women and bringing the neglected and backward segments of the society such as SCs and STs into the mainstream. In fact, the entire impacts of growth pole projects are not quantifiable or measurable since they consist of both economic (direct & indirect) and social, cultural as well as environmental benefits.

14.84 Since the growth pole concept aims at bringing improvement both at micro and macro levels, it brings out better convergence among developmental programs and agencies in the region and also development of infrastructure in the region at a much bigger scale than in a cluster. It has the added advantage of bigger market network and brings into fore a host of social and cultural changes in the area and bridges the gaps which exist in the cluster development program. The concept of growth pole is definitely an improvement over the cluster development approach. In fact, it enhances the benefits of the cluster manifold. The growth pole is a model being viewed as a further step to cluster development initiatives and conceptualises it as a cluster of clusters existing in the same geographical location and focuses on the total area development taking the existing clusters as a centre of economic activities on which the further development is based. This, when pursued, shall lead to increase in the production base and employment generation in the unorganised sector besides augmenting incomes of unorganised workers and artisans.

Recommendations

14.85 The Eleventh Five Year Plan (2007–2012) has sought a 12 per cent industrial growth rate to achieve the projected GDP growth rate of 9 per cent per year during the Plan period. This will be possible only by strengthening the production base of the small and micro units, diversifying their products and services and enlarging the domestic and export market segments. Therefore it is necessary to review the allocations to the small and micro units and enhance the allocations to clusters and initiate the preparation of DPRs for a number of Growth Poles. As elaborated by us, the growth pole is

a step further to cluster development in that it focuses efforts in a contiguous geographical area on all the clusters and activities with potential to create sustainable employment and incomes for the *in situ* population with accompanying socio-economic gains. Implementation of the programme takes into account pro-active participation of the government, the private sector and the beneficiary groups as opposed to passive provision of funds through schemes. These have been well articulated in the DPRs.

14.86 In the light of the foregoing, the Commission recommends adoption of growth pole model as the strategy for the development and strengthening of unorganised sector enterprises in India. The Commission's recommendation on growth poles is based on the assumption that the clusters, once developed, would unleash the multiplier effects, expand production and employment, help tap positive externalities (production linkages, common social overhead capital, and different service delivery networks) and tackle negative externalities. During the Eleventh Plan, twenty-five growth poles may be developed on a pilot basis, one in each state.

14.87 A new implementation mechanism needs to be evolved for the timely, effective and beneficiary-oriented roll-out at the grass roots level. Further, the approach and strategy to be adopted in growth pole projects should be multi-sector, multi-disciplinary, linkage-oriented, participatory, consultative and outcome-oriented and should build-up on the need-based physical and social infrastructure. The DPR for the growth poles should be so structured that it serves like a handbook and leads to an action plan so that the implementing agency clearly understands from the report the 'what', 'why' and 'how' of the doable, sector-wise. It should provide a year-wise doable roll-out plan. The DPR should also provide demonstrative models for the proposed programmes and activities. A comprehensive policy package/scheme should be prepared with physical and financial participation of the central and state governments, banks, financial institutions, and users/private stakeholders clearly demarcated.

14.88 We are also of the view that, given their employment, income and growth impact, enterprises in

the Growth Poles should be given the incentives currently slated for Special Economic Zones.

14.89 With these steps, and by building on the synergy between the micro-enterprises, as well as with other

institutions, we feel it will be possible to give employment and productivity in the unorganized sector a big boost and give the sector the primacy that it deserves in our development strategy.

15 Recommendations

Definition of Informal Sector and Informal Employment¹

15.1 Taking into consideration a holistic view of the problems and prospects of the informal sector economy, the Commission recommends a strategy of levelling up, wherein employment is primed as the central objective. The ‘common approach’ has been summed up in Chapter 2 and its recommendations are presented here in sequential order.

15.2 The Commission evolved a harmonised definition of unorganised or informal sector and used the same throughout this report. The Commission has used the following definition to separate the informal or unorganised sector from the formal or organised sector:

“The unorganised sector consists of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers”. (Para 2.16)

15.3 The Commission considers all agricultural activities undertaken on agricultural holdings, either individually or in partnership, as being in the unorganised sector. According to this definition, it covers a very large part of agriculture,

and excludes only the plantation sector and other types of organised agriculture (e.g. corporate or co-operative farming). (Para 2.18)

15.4 The definition of the unorganised enterprise constituting the unorganised sector given here is a generic one, implying that it has no legal connotation of its own (other than the person who owns it); it is small in employment size and, more often than not, associated with low capital intensity and labour productivity. The diverse nature of these enterprises is often a response to the demand for a variety of low-price goods and services produced in different modes of self-employment, unpaid family labour and wage work (often concealed as self-employment under different forms of putting-out systems). (Para 2.18)

15.5 The Commission has also made an important distinction between organized or formal and unorganised or informal employment as follows:

“Unorganised workers consist of those working in the unorganised enterprises or households, excluding regular workers with social security benefits, and the workers in the formal sector without any employment/ social security

¹See Chapter 2 for details

benefits provided by the employers". (Para 2.19)

Measurement of Employment and Unemployment²

15.6 Reliable annual data on employment and unemployment should be estimated on a regular basis and should be considered an immediate policy priority. In addition, the indicators on employment should help establish linkages to earnings so that it will provide a clear picture about living conditions of individuals. (Para 3.3, 3.43)

15.7 The use of Modified Current Weekly Status (MCWS) is recommended for analysing the characteristics of labour force and employment projections along with other measures. Information requirement of standard concerns of policy with reference to "Severely unemployed", "Part-time Workers" and "Underemployed" unambiguously could be met reasonably well with shifting over to MCWS standards. (Para 3.34, 3.35, 3.38)

Labour Force Projections³

15.8 The realization of demographic dividend is dependent on a number of preconditions. First and foremost, the accelerating economic growth rate has to be such that it creates gainful employment. Second, the labour force should have minimum levels of educational attainments and skill levels so as to contribute to productivity and secure adequate returns. Third, the process of economic development should help the increasing labour force move away from low productivity sectors such as agriculture into high productivity sectors. (Para 5.86)

15.9 There is considerable backlog of illiterate men and women as well as those with low levels of education with lack of requisite skills and knowledge. To avoid the prospect of this demographic burden, focused policies are called for. Two main elements of such a policy are access to functional literacy and skill development and basic social security to take care of food/nutrition and health care. (Para 5.51)

² See Chapters 3 & 4 for details

³ See Chapter 5 for details

⁴ See Chapter 6 for details

15.10 States that warrant special attention with appropriate regional policies and programmes are Rajasthan, Andhra Pradesh, Uttar Pradesh, Madhya Pradesh, Bihar, Jammu and Kashmir, Jharkhand, Chattisgarh, Karnataka, Orissa and West Bengal. (Para 5.52)

15.11 Attention needs to be given to those with some general education but without any formal skill acquisition. Those with middle level of education will be close to 18 percent of the total labour force by the end of the 11th Plan. An equal share will also be of the group with secondary with or without higher level of training but not a college degree. These two groups would then constitute close to 36 percent of the labour force or closer to 200 million. They would require training in specialized skills if they are to be absorbed in employment demanding skills and consequently decent level of earnings. (Para 5.53)

A Strategy for Promoting Decent Employment⁴

15.12 A strategy of 'levelling up' the informal economy by advocating a series of promotional policies to strengthen the working conditions, enterprise capacity and so on resulting in increasing the productivity along with providing social security and decent conditions of work. Such promotional measures include (i) creation of a 'social floor' consisting of providing a national minimum social security, enforcing a national floor level wage called National Minimum Wage below which no trade/area-specific minimum wage should be fixed and a stipulation of minimum conditions of work, (ii) skill formation for the informal workers as a critical capability to enhance their productivity and thereby income, (iii) strengthening the NREGS meant for the rural areas and to connect it up with a programme for urban renewal, (iv) agricultural regeneration through a special programme for marginal and small farmers, (v) development of micro enterprises in the non-farm sector with a focus on development of clusters and Growth Poles. (Para 6.126)

Labour Reforms⁵

15.13 There is an urgent need to consolidate the labour laws and bring uniformity in definitions of certain key terms like ‘employer’, ‘employee’, ‘establishment’, and ‘wages’. In this context, the Commission feels that there is a need to formulate a National Labour Code. The labour code, in the form of a basic law, should also lay down a floor of substantive labour rights or standards such as minimum wages, maximum hours of work, minimum standards of safety and health at workplace and so on. The interest of labour in increasing labour standards beyond the statutory level may be best left to collective bargaining between the employer/employers and trade unions. Collective bargaining should be considered the main form of joint decision making in resolving interest disputes. (Para 7.66, 7.69)

15.14 If the consensus between social partners does not materialise in a short time for whatsoever reasons, the suggestions of the two NCLs may be followed to consolidate the labour laws into a few cognate groups such as Labour Relations, Wages, Working Conditions, Social Security, Conditions of Work for Unorganised Labour, Conditions of Work for Agriculture Labour, as a first step towards evolving a National Labour Code. In either case, the Code prepared by the NLLA may be taken as a model for further discussion. (Para 7.70)

15.15 The Contract Labour Act may be amended so as to streamline regulation and make it more effective. It recommends that all labour laws specifying conditions of work and social security may be made applicable to workers employed by or through contractors. It must be ensured that the contract workers are protected with the various provisions of laws: minimum wages, timely payment of wages, safety and welfare provisions at the worksite, ESIS and PF benefits etc. For ensuring the above, existing provisions should be made explicit parts of the Contract Labour Act. Where they already exist, procedures and responsibilities for their implementation should be made clear. Where, the proposed provisions do not exist, they may be added to the Act. At the same time, the Commission feels that a more rational method of identifying activities which require fluctuating volume

of workers and therefore genuinely need contract workers should be evolved. (Para 7.71, 7.73)

15.16 Industrial Disputes Act is the main legislation dealing with employment relations of the organised sector. Presently, every time there is a change proposed on working conditions, a 21 day’s notice need to be given to all concerned including the government under section 9A. Disputes relating to notice of change under section 9A should be settled by collective bargaining or through resort to grievance settlement machinery and not through conciliation procedures which take a long time to conclude. A Grievance Settlement Machinery as provided under Chapter II-B section 9-C of the IDA needs to be put in place to deal with such issues. (Para 7.74)

15.17 The retrenchment compensation paid out at present is totally inadequate. An increase in the retrenchment compensation has been recommended from time to time by various commissions/ committees and has also been supported by the industry. The Commission recommends that retrenchment compensation should be enhanced at least to 45 days from the current 15 days. Moreover, provisions relating to providing notice and retrenchment compensation under chapter VA should be extended to all establishments covered by the law. (Para 7.75)

15.18 The Commission feels that a scheme for unemployment insurance scheme should be introduced so that the liability to pay the retrenchment compensation can be converted into an insurance-based, social security benefit. The ESIC has recently introduced an unemployment allowance for the first time under the Rajiv Gandhi Shramik Kalyan Yojna (Unemployment Allowance Scheme) launched on 1st April, 2005, granting an unemployment allowance of a maximum of six months duration during the entire service for a person who has been a member of the ESIC for at least five years. Two alterations in the existing scheme could be considered for making it attractive enough to act as a safety net for the workers. These are: (i) The minimum period for which contribution in respect of the applicant should have been paid / payable may be reduced from five to one year; (ii) Period over which unemployment allowance

⁵ See Chapter 7 for details

will be payable is to be increased from six months to one year. In addition, as an attempt to establish a buffer to meet the enhanced cost, one time contribution may be sought from the employers to the scheme. On a preliminary examination, the Commission found that such an enhancement of coverage and benefit in the scheme is feasible and workable. (Para 7.76)

15.19 A decision on retrenchment may be taken through a process of collective bargaining for any other aspects not covered here but found important by both employers and employees. Once such a process has been gone through, the provision requiring prior permission under chapter VB would become redundant and hence be made inapplicable. The Commission feels that the above approach would provide a safety net to the workers while providing flexibility in labour use as dictated by production conditions to the employers as well. (Para 7.77)

15.20 Reduction in the number of laws and corresponding authorities should result in the reduction of number of inspections. (Para 7.78)

15.21 The Commission would like to reiterate the recommendation made in its earlier report (NCEUS, 2007a) that there should be a statutory National Minimum Wage. (Para 7.79)

15.22 On labour administration, the Commission feels that the best method of ensuring proper enforcement of labour laws is through the vigil of trade unions. Lok Adalats should also be encouraged to enable faster disposal of cases. Stricter law enforcement cannot be achieved without strengthening the labour administrative machinery. A database should be built up on all aspects relating to industrial relations and the officers of the Labour Departments should have access to such database through computer connectivity. It is also necessary to improve the knowledge, skills and competence of the officers to enable them to win the confidence of the employers and workmen. Induction, training and periodical refresher courses are necessary to improve the efficiency and effectiveness of officers. As recommended by the SNCL, the Government may consider creating an All India Service for labour administration to provide

professional experts in the field of labour administration in the labour departments, autonomous bodies and labour adjudications. (Para 7.80, 7.81)

Skill Formation⁶

15.23 The National Skill Development Coordination Board (NSDCB) should launch a *National Mission for Development of Skills in the Unorganised Sector*, to support skill development in the unorganised sector. Apart from coordinating the expansion of skill development in the unorganised sector in a mission mode, a certain quantum of funds should be at the disposal of the Mission to support skill development in a responsive mode, focusing upon strengthening of institutional infrastructure, creation of labour market information systems etc. in the manner that is detailed below. The main purpose of the NSDCB should be to provide financial support to NGOs and other non-profit organizations engaged in the training of informal sector workers. (Para 8.96)

15.24 The Commission views the SDI as a commendable initiative under which there is a positive effort to expand relevant skill training for school drop-outs and back this up through the development of modular courses, registration of vocational training providers and certification by third party agencies. However, in order to strengthen the skill development programme in lagging areas, the Commission is of the view that the National Council for Vocational Training (NCVT) may be identified as the primary agency charged with setting of standards, certification of skills and accreditation of providers for all certificate based training for which the minimum eligibility is less than higher secondary education. Alternatively, a new body with well-defined statutory responsibilities may be charged with these functions. (Para 8.98)

15.25 The Commission has also recommended the establishment of a state level structure that will perform the same coordinating functions at the state level, which the NSDCB will perform at the national level, within the overall framework and guidelines provided by the Prime Minister's Council. This body should be fully responsible for making and implementing a training plan at the state level and coordinating and monitoring skill

⁶ See Chapter 8 for details

and training initiatives in the state. The State Councils for Vocational Training (SCVTs) should have full responsibility for evolving a framework for curricula development and a certification framework to meet the local needs. (Para 8.99)

15.26 The expansion of skill development involving millions of people will require coordinated action between the public and private agencies at the local level. The Commission is, therefore, of the view that the skill development programmes for the unorganised sector should be operationalised by a District Skill Development Council (DSDC) which would be the most crucial link in the entire skill development framework. The DSDC will function under the District Planning Committee or Zilla Parishad and will be managed by an executive committee consisting of the major stakeholders in the skills arena at the district level. In order to give greater operational flexibility to the DSDCs, they could be registered as societies or not-for-profit companies. (Para 8.100)

15.27 At the apex level, the Ministry of Human Resource Development will continue to coordinate the development of vocational education in the country. However at the district level, the DSDC may be given the task of dovetailing VE with training requirements. As already discussed, the capacity for vocational education needs to be increased significantly. This will have to be accompanied by making the course content more responsive to the market demand. The industry associations may be associated with formulation and revision of course curricula. Links should be established between the vocational education stream and school education as well as higher education. Students should be able to move between vocational and general education streams by providing them with multiple entry and exit options. Public expenditure on vocational education needs to be increased significantly. The NSDCB can perform the task of coordination between vocational education and vocational training components. The states may design their own variants taking regional specifics into account. (Para 8.101)

15.28 The expansion of skill development programmes for the unorganised workers have to be formulated

through a combination of public and private initiatives conceived in a broad sense. In the public sector, expansion of training can be through rationalisation, consolidation, strengthening and expansion of the existing schemes that have been functional at the district level for some time now by undertaking new initiatives. Initiatives such as the Cluster Development Programme of the MSME would need to be integrated with such a programme for skill development. (Para 8.102)

15.29 There is an urgent need to consolidate and strengthen training programmes in the existing livelihood and social sector programmes. Skill development for the unorganised sector workers has to be seen as an integral part of the livelihood support which includes a number of elements including identification of the activities, credit and technological support, capacity building and backward/forward linkages. The quality of training imparted under various livelihood promotion activities should be improved and standardized and these schemes be integrated with the training plan of the DSDC. These schemes should also involve formal certification procedures to ensure standardization and minimum standards of quality. Over time, training under these programmes should be linked to the MES framework. (Para 8.103, 8.106)

15.30 The Modular Employable Skills (MES) framework under SDI of the MOLE offers many elements which are appropriate to the development of training initiatives for the informal sector. Under the SDI, workers can be trained in formal institutions, or informally trained workers could take up an examination and be certified. Such workers, as discussed above, could be offered facilities to go through a “finishing school” before taking such an examination. Since the SDI and the MES framework can be adopted for training of all informal sector workers, with appropriate care, the Commission is of the view that the SDI should be gradually strengthened and targets under the scheme significantly increased along with adequate budgetary allocations. Larger number of training providers and assessing bodies should be brought under its ambit. (Para 8.107)

15.31 The Ministry of Micro, Small and Medium Enterprises is focusing on Entrepreneurship Skill

Development Programmes (ESDP) in the unorganised sector conducted through Micro, Small and Medium Enterprises-Development Institutions (MSME-DIs). Emphasis is on conducting 'out-reach' training programmes in backward areas, particularly for weaker sections of the society. The Commission is of the view that this programme should be steadily expanded as it has the potential to provide relevant skills to a large number of target group beneficiaries in the unorganised sector. (Para 8.108)

15.32 In order to address the problems with the existing informal apprenticeship systems at the district level, attention has to be given to the issue of awareness and incentives to those who impart training (master craftsmen) as well as those who receive training (apprentices). First, it is essential that the formal certification systems being developed under the SDI are able to reach out to the informal training system through the district level structure suggested earlier, or through specific schemes such as the SDI, the ESDP etc. There can be incentives for the apprenticeships in the form of reimbursement of fees charged on completion of the course, low or no fees charged for those from SC/ST backgrounds, and so on. Second, it is necessary to continuously upgrade the skills of master craftsmen/trainers themselves in order to be able to cope with changing technology, fashion and shifting markets. (Para 8.110)

15.33 The Commission has made specific recommendations with regard to dovetailing of the existing cluster development programmes in India and the proposed district level skill agency. First, effective partnership needs to be established between the DSDC and all clusters in the district. Second, the methodology evolved by the UNIDO and the MSME's cluster initiatives in generating the conditions for concerted joint action among enterprises, need to be expanded into the skills and training arena. Such initiatives are already in place for marketing and financing and can be easily extended to skills. Third, the existing skills development programmes for clusters (e.g. leather industry) organised by some leading institutions could be scaled up to increase the number of trainees at higher ends of the training spectrum. Fourth, the incentive structures and costs to be

incurred by potential trainees have to take into consideration differences between clusters, i.e., artisan, micro enterprise based or mixed firm. (Para 8.111, 8.112, 8.113)

15.34 In order to strengthen and upgrade (formalize) the systems of informal training, the Commission has recommended that a massive *Programme for Employment Assurance and Skill Formation with the aim to develop human capital through on-job-training* be launched. The scheme will provide employment to the poor for about six months and offer them formal marketable skills. The proposed scheme may also be considered as a programme for skill formation through apprenticeship and the six months' job at minimum wages may be regarded as "on-job-training". (Para 8.114)

15.35 The total financial provision per worker would be Rs 10,000/- which would cover (a) about six months of pre-or post-certification on-job-training/employment for which the employer be provided Rs. 50 per day as subsidy towards stipend being paid to the worker (b) Rs 500 as the cost of certification, as provided under the SDI; (c) Rs. 1000, as cost of training/incentive to the provider/employer. The worker would have the flexibility of receiving training either pre or post-certification, or both. However, the subsidy towards the stipend would be back-ended in the case of the former; i.e. the employer would receive the stipend subsidy only if the worker is certified. (Para 8.120)

15.36 As indicated above, the programme requires a one time financial outlay of Rs. 10,000 per worker, which is the same as that provided under the NREGA. A provision of Rs 10,000 crores over five years for this project would thus ensure additional training-cum-employment to one crore persons through this mechanism, expanding the present training capacity by 2 million per year under the programme. (Para 8.121)

15.37 There are a vast number of private initiatives to support skill training such as in-house training by corporates, private for-profit training initiatives and private not-for-profit initiatives by Foundations, Trusts, NGOs etc. While the public sector will no doubt like to rely on NGOs/private agencies to front-end its training initiatives, special efforts should be made to preserve the autonomy

of those institutions which are trying to develop innovative models of training for the unorganised sector workers. The government should provide support for such initiatives as well as other not-for-profit initiatives, through subsidies for capital costs or coverage of financial deficits, with proper incentives to expand their outreach among the weaker sections of the unorganised sector workers. The Commission has already envisaged such a role for its proposed National Fund for the Unorganised Sector (NAFUS). This function must also be extended to the NSDC. (Para 8.122)

15.38 The Commission believes that the proposed expansion in training systems should pro-actively foster gender sensitivity and gender equity in training through proper design, advocacy, and incentives. Four broad sets of issues may be addressed here. First, the content of training programmes for women may need to integrate components of literacy, numeric skills, business skills, confidence skills in a bigger way. Second, training for women is likely to be more effective when done in a formal, participatory way through groups. Third, programmes should address the special constraints faced by women in participating in training. This includes limited mobility, need for child care and gender segregation. The training itself should mainly comprise modular, short-term courses with flexible entry and exit options and mobile training provisions. Fourth, training women only in gender stereotyped activities has both specific and general ramifications, since such training not only would perpetuate gender segmentation, but also often leads to over saturation of trained women in low paid work. (Para 8.123)

15.39 This Commission has advocated that: (i) a sum of Rs. 5000 crores be allocated to the NSDCB for a National Mission for Skill Development in the Unorganised Sector for supporting the cost of setting up and operating the proposed institutional infrastructure for expansion of training initiatives at the district level and, (ii) at least a doubling of the existing training schemes under the SDI and MSME (Rs. 1000 crores); and (iii) Rs. 10,000 crores for the proposed Employment Assurance Scheme. The Commission expects that it would be possible to expand training to cover 50 per cent

of the labour force within a reasonable time frame. (Para 8.125, 8.128)

Public Employment Programmes (NREGA) for Unorganised Sector Workers⁷

15.40 The Commission regards the NREGA as an important component of the full employment strategy for India. The Commission recommends to expand the list of assets under NREGA and to vest these assets in the poor.

- ‘ The list of Assets could be extended to include other developmental works that creates assets which actually contribute to the long term development of the village.
- ‘ Control over the community assets created under NREGA and responsibility of maintenance should be vested with the workers (men and/or women) so that they will have long term stake. The community assets could be owned by the government and the surpluses generated could be distributed among the workers themselves.
- ‘ The assets could also be constructed on land owned by marginal and small farmers belonging to deprived sections (apart from SC and ST) to increase the productivity of their lands.(Para 9.50)

15.41 The Commission recommends that the limit to employment days under NREGA be expanded.

- ‘ The cap of 100 days of employment should be removed in districts where 50% of the working population belong to Scheduled Castes and Scheduled Tribes
- ‘ Also employment guarantee should be made applicable for each individual rather than per household
- ‘ NREGA activities should be taken up in class B and C municipalities as that would enhance employment opportunities in semi-urban localities. (Para 9.51)

15.42 To make NREGA programmatically more efficient, the Commission urges to improve convergence

⁷ See Chapter 9 for details

of NREGA with other departments and dovetailing with other social development programmes. (Para 9.52)

15.43 The Commission recommends that the capacity building of workers and institutions under NREGA be strengthened.

- ✓ The scheme guidelines should make provision of upgradation of skills of women and men workers so that they can be able to take up skilled jobs in the implementation apparatus of the programme
- ✓ Capacity building of communities and implementation machinery on participatory planning should be taken up in order to identify works and prepare plans for implementation. Dissemination of blue prints of activities in simple language would enable participatory planning with community members. (Para 9.53)

15.44 To strengthen the administrative and operational efficiency, the Commission recommends that the administrative expenditure limits of NREGA funds be enhanced to 6 percent. (Para 9.55)

15.45 Awareness generation about NREGA should be a key component so as to increase the number of beneficiaries and to make the scheme more transparent. (Para 9.56)

15.46 The Commission suggests that steps should be taken to improve worksite management practices such as mandatory child care facilities, providing works for persons with disabilities and women in management of mandatory worksite facilities (water, shade, first-aid and child care), opportunities for “light work” on a daily-wage basis at every worksite for persons who are unable to meet the standard productivity norms due to old age, disability, illness, pregnancy and related conditions. (Para 9.57)

15.47 The Commission is of the view that there is enormous scope to improve bank payment modalities under NREGA. The Ministry of Rural Development (MoRD) has made mandatory payments through Banks or Post Office Accounts. It is a welcome move, as it has enabled financial inclusion of large sections of men and women workers. On the other hand, several measures

are necessary to further transparency and efficiency. Towards this end, the Commission recommends the following steps:

- ✓ *Payment Orders:* A model Payment Order (PO) should be designed, posted on the NREGA website, sent to the state governments, and included in the next edition of the Operational Guidelines. All state governments should be instructed to use this model Payment Order (or an improved version of it).
- ✓ *Wage Slips:* The use of “Wage Slips” (to be given to NREGA workers in public), recommended in the NREGA Operational Guidelines (Para 7.2.1) should be mandatory. Alternatively, payments may be made through Account Payee cheques. The transparency norms applicable to wage payments in cash (payment in public, reading aloud of muster roll, updating of Job Cards, etc.) should be applicable to the distribution of Wage Slips or cheques.
- ✓ *Minimum safeguards:* The Reserve Bank of India should be requested to issue strict instructions to all Banks on the payment of NREGA wages, including the following “*minimum safeguards*”: (a) Money should be withdrawn only in the presence of NREGA workers; (b) Passbooks should be updated when money is withdrawn; (c) All NREGA-related documents (including details of Bank accounts of NREGA workers) maintained by the Banks should be open to public scrutiny; (d) Bank statements of Gram Panchayat accounts should be pro-actively disclosed at the end of each financial year.
- ✓ *MoUs with Banks:* Similar instructions should be issued directly by the MoRD, e.g. in the form of a clarification (addressed to the Banks) about the terms and conditions under which they are expected to handle NREGA funds and payments to NREGA workers. State governments should be encouraged to sign explicit MoUs with Banks, incorporating these minimum safeguards.
- ✓ *Improved Guidelines and Rules:* Section 7.2 of the NREGA Operational Guidelines, dealing with

bank payments, should be improved in the light of recent experience and converted into Rules. (Para 9.59)

15.48 The Commission identified the necessity to set up mechanisms for addressing grievances. The following steps should be taken up in this regard:

- ‘ Strong grievance redressal rules should be framed at the national level. The provisions therein should include: setting up of district level grievance redressal cells to adjudicate and monitor redressal of complaints, setting up of toll-free help lines at the district level and monitoring of redressal (with adequate publicity on this measure) etc.
- ‘ Similarly, the central and state governments should frame rules for activation of penalty provisions under Section 25 of NREGA.
- ‘ Expansion of ‘Lok Adalats’ on NREGA may be explored, as it is currently being experimented in some locations.
- ‘ Full time ombudsman for NREGA may be institutionalised. (Para 9.60)

15.49 The Commission suggests the following measures to improve administrative wherewithal:

- ‘ All vacant posts should be filled up, ensuring that each block will have full time programme officer (at the rank of block development officer).
- ‘ For hiring skilled staff for the programme, the following amendment of Schedule I may be considered for this purpose:

Subject to norms specified by the Central Government, the following categories of skilled labour may be employed by State Governments on a daily-wage basis (up to 365 days a year): Gram Rozgar Sevaks; technical assistants, trained mates; data entry operators; Social Auditors; child-care givers. A portion of their wages, equal to the wage earned by unskilled workers, will be paid by the Central Government.

- ‘ Key functionaries involved in NREGA (including Gram Rozgar Sevaks, Panchayat Sevaks,

Programme Officers, mates, etc.) should have a clear “Job Charts” specifying their duties. Failure to perform one’s duty as per this Job Chart should attract a penalty under Section 25 of the Act.

‘ The support structures developed under the Employment Guarantee Mission should include a Training Unit, to facilitate the development of first-rate training resources as well as wide dissemination of the best training modules from different states. (Para 9.61)

15.50 To improve gender sensitive implementation of NREGA, the Commission recommends the following measures:

- ‘ Proactive measures by the state governments for fulfilling the mandate of 33 per cent norm of women’s share of NREGA should be enforced forthwith. Incentives and dis-incentives should be developed for enhancing women’s participation in NREGA.
- ‘ Equal participation of women in NREGA should be promoted at all levels, not just in terms of labour participation at the worksite. “Fifty per cent” should be the standard minimum target for women’s share of NREGA posts, e.g. Programme Officers, Gram Rozgar Sevaks, trained mates, social auditors, data entry operators, Junior Engineers, technical assistants, and so on.
- ‘ Widows, separated women and other single women should be entitled to separate Job Cards irrespective of their living arrangements.
- ‘ Payment of women’s wages through men’s (e.g. their husbands’) bank accounts should be prohibited. Women workers should have their own bank accounts, or, at the very least, be equal co-signatories of joint accounts (e.g. husband and wife).
- ‘ Breast feeding breaks should be incorporated into the work schedule of women at NREGA worksite. (Para 9.62)

15.51 The Commission also recommends that steps should be taken to ensure the following programmatic and operational issues under NREGA.

- Review of entire record-keeping system for streamlining and capturing some of the critical elements like delays in payment etc.
 - Separate funds (at least 3%) should be earmarked for employment of persons with disabilities as per the guidelines.
 - Employment should be made available on a daily wage basis for persons who are unable to meet the standard productivity norms due to disability, old age, illness, pregnancy, etc.
 - Professional technical support team should be made available at the district and block levels to support the implementation of NREGA.
 - A national minimum wage of Rs.100/day at 2008-9 prices should be introduced in place of current freeze on wage rates.
 - Rules should be framed for payment of unemployment allowance in case officials fail to provide employment. Officials who refuse to accept written applications from job seekers should be liable for punishment under Section 25 of NREGA. (Para 9.63)
- development programmes and to ensure their access to these programmes in order to strengthen their livelihood security. The principal activities proposed under the special programme are presented below:
- Promotion of Marginal–Small Farmers’ Groups:* One of the first and important functions of the Programme will be the promotion of formation of marginal and small farmers’ self-help groups. The Special Programme proposes setting up of **Marginal and Small Farmers’ Development Society (MSFDS)** for the promotion, capacity building and coordination of development of M&S farmers’ groups at the district level.
 - Enabling Greater Access to Institutional Credit:* Linking the M-S farmers’ groups to banks is an essential step towards adequate flow of institutional credit to these farmers. This linking could be done on the pattern of the existing SHG-bank linkage programme. The objective is that adequate institutional credit should be able to reach all M&S farmers, whether owners or tenants.
 - Training and Capacity Building:* Since farming is becoming increasingly knowledge based, training M-S farmers in appropriate technical and farming practices specific to different regions becomes an urgent need. The Special Programme aims at motivating and enabling M&S farmers to acquire skills by establishing Community Resource Centres, by promoting M&S farmer activists at the village, cluster, and block levels, and by promoting training of Trainers and training of M-S farmers. The M&S farmers’ groups will be the basic units for this intervention and grass-roots agencies will enable them to link up with existing facilities and programmes.
 - Support for Strengthening and Creation of Non-Farm Activities:* Given the fact that income from small farming is hardly sufficient to meet the basic needs of the farm households, it is important to strengthen and enhance their sources of non-farm income. Some of these are organically linked to farming as in the case of dairying, livestock rearing, inland fishing, food processing, weaving as in the

An Employment Strategy for Agriculture centred on marginal and small farmers⁸

15.52 The Commission feels that there is need for a focused strategy with respect to marginal and small farmers. Thus, the Commission has worked out a special programme for marginal and small farmers. The underlying idea of a special programme was to build capacity of small-marginal farmers through a **group based approach** in the proposed Special Programme. The group based approaches have shown to make a significant impact on the agricultural outcomes for marginal-small farmers, while also enabling them to access credit and other resources, and helping them to undertake non-farm activities. The main objectives of this programmes was (i) to improve the income prospects of marginal-small farmers from agriculture, (ii) to improve the skill base of marginal-small farmers in both agricultural and non-agricultural activities (iii) to provide such farmers with income earning opportunities in the non-farm sector (iv) to ensure that the needs of the marginal and small farmers are adequately reflected in other agricultural and

⁸ See Chapter 10 for details

North-east, and so on. In addition there will also be non-farm activities that could be accessed by members of the small farmer households. A number of schemes and programmes exist for rural non-farm activities such as PMEGP and SGSY.

Gender-focused Activities: The Programme would play a leading role in facilitating a gender sensitive marginal and small farmer development strategy. These include mapping the existing role and constraints on women farmers, support and organise training and skill development programmes for women farmers. The Programme should also promote joint ownership or leasing and operation, or usufructuary rights over existing productive assets (land, trees, ponds, CPRs) as well as new ones among women farmers through SHGs, co-operatives etc.

Planning for Development of Marginal and Small Farmers: While the Special programme would initiate the activities outlined above, the MFSDS would also develop a strategy for the medium term development of M&S farmers with a bottom-up approach. Special stress will be laid on dovetailing the requirements of the small farmers with all existing programmes.

Financial Resources: The financial resources meant exclusively for this programme, will be an additionality over and above what is provided in the existing schemes. The total cost of this Programme would be about Rs 2000 crores per year or an average of about Rs 3 to 5 crore per district. The total amount would be allocated to the states/districts in proportion to the M&S farmers in each area. (Para 10.60)

15.53 The Commission has recommended the following sets of measures to improve credit support for marginal-small farmers as an immediate Action Plan: (1) Separate monitoring of the credit flow to this segment of farmers i.e. marginal and small farmers. (2) Change in the priority sector guidelines with a target of 10 per cent needs to be fixed for marginal and small farmers. (3) Measures to increase the outreach of the banking sector in rural areas and in areas of financial exclusion. (4) Measures to extend credit to the 20 - 40 per cent of the

marginal and small farmers who are excluded from the formal financial sector due to lack of patta and title deeds. Apart from the aforementioned measures, steps to strengthen and revive the rural banking sector and co-operatives are needed. The efforts of SHGs also need to be encouraged. (Para 10.61)

15.54 The Commission is of the view that programmes of land and water management must be significantly upscaled and an accelerated programme of watershed management should be implemented during the 11th Plan. A number of activities undertaken in the Watershed Development Programme pertain to wage employment. These activities can be converged with NREGP and SGRY. Shelves of projects related to water conservation, plantation and afforestation, renovation of the existing water structures, soil conservation and structures dealing with drought should be appropriately linked to the Watershed Development Work Plans at Block level. The Watershed Development Teams should work for convergence of WDPs with NREG activities. Panchayats should be trained to ensure convergence in implementation. (Para 10.62)

15.55 The Commission is of the view that the Central Government could provide guidelines and assistance to states experiencing agrarian distress, both natural and market related, for setting up Farmers Debt Relief Commissions. It recommended that the Government, as part of the relief package, could extend assistance to the State Commissions on a 75:25 basis. The Debt Relief Commissions, as part of their award, should examine and institute measures which ensure the entitlement of the marginal/small farmers to institutional credit. These measures would complement the measures already announced by the Government. (Para 10.66)

15.56 It is now increasingly clear that the capacity of the agricultural sector to absorb the increasing labour force is limited and there is a need to diversify to other non-farm and off farm employment in rural areas. The government must also take steps to improve the access of these vulnerable groups to these jobs through skill development and improving their capital and human asset base. *All this must be done while simultaneously addressing gender and social issues.* For enhanced access to non-farm employment, the following measures have been suggested

by the Commission:

- ‘ *Promotion of Self-employment Programmes:* More than three-fifths of the unorganised workers in India are self-employed and asset ownership and operation lowers poverty in most cases. Thus, strategies, which promote self-employment and income growth of the self-employed are important components of a pro-poor development strategy in India. PMEP, SGSY and SSSY should be promoted .
- ‘ *Wage Employment Programmes and NREGA:* Wage employment programmes have been an important component of the anti-poverty strategy. These provide employment opportunities not only during lean agricultural seasons but also in times of floods, droughts and other natural calamities. These programmes also contribute directly to the creation of durable assets for the community. NREGA is a step in this direction.
- ‘ *Skill Training:* The Commission has proposed a decentralised initiative to expand skill training in rural areas which would be amply supported national level structures and institutions. The Marginal and Small Farmers agency proposed by the Commission will also take upon the responsibility of coordinating skill development programmes for its target group viz. marginal and small farmers. (Para 10.68)

15.57 The Commission supports the implementation of the following land reform measures on a priority basis:

- ‘ *Ownership and land control rights for women:* Since women do not usually have ownership rights, the Report has called for promoting such rights through joint ownership and pattas, as well as other forms of production such as tree pattas and cooperative model of production which give women greater control.
- ‘ *Land reforms:* Continue redistributive land reforms viz. one which improves the access of the rural poor to land through expropriation and distribution of ceiling surplus lands and cultivable

wastelands (with priority being given to homestead land), tenurial reform and better operation of the land-lease market and the land sales market. The latter will help to align the ownership and control of land to the actual cultivators, improving cropping intensity and the efficiency of cultivation.

‘ *Tenancy reforms:* The Tenth Plan and the Eleventh Plan have already suggested that tenancy should be legalised subject to the ceiling limit already specified in law, security of tenure should be encouraged and the new law should protect the rights of both landowners and tenants. At the same time, banks should not insist on copies of land records for credit purposes.

‘ *Tenancy Security* Tenancy security should be seen as a basic requirement for both livelihood security of poor farmers as well as agricultural development especially in a situation where the employment transformation to non-agricultural employment has been quite slow. In any case, the addition to the rural labour force will be quite significant as to warrant an intensification of employment creation in the non-farm sector. (Para 10.71)

Access to Credit⁹

15.58 The priority sector lending policy needs to be revised by providing a quota for micro enterprises and others as available to agriculture and weaker sections. In so far as agriculture sector is concerned within its 18 percent of priority sector quota, a reservation of 10 percent and 8 percent should be made for marginal and small farmers respectively. For the weaker sections for which a quota of 10 percent exists, the upper limit of loan should be fixed at Rs 5 lakh along with changes in the eligible categories as suggested in the report. (Para 12.50)

15.59 In order to ensure compliance of the priority sector guidelines by making loans to the needy sector, it is recommended that RBI should devise a mechanism to dis-incentivise depositing money with financial institutions. Further if the shortfall continues, 50 percent of the shortfall in the priority sector lending either by domestic or foreign banks, should be deposited with the

⁹ See Chapter 12 for details

proposed National Fund for the Unorganised Sector. (Para 12.51)

15.60 There is a need to provide adequate safety nets to the banks to encourage lending to Non-farm Unorganised Enterprises (NFUEs) by bringing suitable changes in the credit guarantee scheme and introducing a specially tailored credit rating arrangement for them. (Para 12.52)

15.61 The rate of interest on loans to the micro enterprises (i.e. those below Rs. 5 lakh investment) should be the same as charged from agriculture. (Para 12.53)

15.62 In order to change the approach of the bank personnel in favour of NFUE's there is a need for their training so that they are able to appreciate the problems of these enterprises. (Para 12.54)

15.63 There is need to bring in uniformity in the rate of margin money support under each government-sponsored programme. It should be fixed at 25 per cent on the pattern of Rural Employment Generation Programme. (Para 12.55)

15.64 Banks should adopt the Agency Model with its Business Facilitators and Business Correspondents thereby utilising the service of civil society organisations. Further, in order to strengthen the delivery points, the profitability of a bank branch needs to be assessed for a group of branches rather than individually. The rural bank branches should be strengthened with technical manpower. (Para 12.56)

15.65 The constraints which inhibit micro finance to graduate to micro enterprises finance should be removed through capacity building of SHGs and MFIs and provision of livelihood finance. (Para 12.57)

15.66 Innovative financing instruments such as factoring, venture capital, credit rating, and a single multi-purpose Swarojgar Credit Card for the unorganised sector on the pattern of Kisan Credit Card with a limit of up to Rs. 10 lakh may be introduced. (Para 12.58)

15.67 To save the lower segment of micro enterprises from undue harassment, the limit of loan for action under the Bank Securitisation Act, 2002 may be raised from Rs.1 lakh to Rs. 5 lakh. (Para 12.59)

15.68 Since the major part of credit to the lower section of micro enterprises flows through the government sponsored programmes there is a case for enhancing the target of these schemes to expand the employment opportunities in the Non-farm Unorganised Sector. (Para 12.60)

15.69 The Commission has made recommendation for the creation of a National Fund for the Unorganised Sector (NAFUS) as a statutory body funded by the Government and Financial Institutions that will primarily focus on enterprises with an investment of less than Rs. Five lakhs. The specific recommendations for NAFUS are presented below:

- ✓ The Commission examined various forms of organization and recommends that the proposed Fund be created as a Statutory Body under an Act of Parliament.
- ✓ Considering the vast resource requirements to provide increased credit support to the unorganised sector, NCEUS proposes an authorized capital of Rs. 1000 crores for the proposed institution. The initial paid-up capital is proposed at Rs. 500 crores in 2007-08 which would be gradually enhanced to Rs. 1000 crore by 2011-12. The paid-up capital may be funded by the Central Government, public sector banks, financial institutions and other agencies in such a way that the control of the Government of India directly or indirectly shall not be less than 51 per cent. It may be noted that SIDBI and NABARD have paid up capital of Rs. 450 crores and Rs. 2000 crore respectively and the proposed Fund's size of operation is likely to be between these two organizations.
- ✓ The target group of the Fund shall be all enterprises in the unorganised sector covering non-farm activities employing less than 10 workers, primarily those with investment in plant and machinery not exceeding Rs. 5 lakhs (excluding land and buildings) at 2004-05 prices, if engaged in manufacturing, and investment in plant and machinery not exceeding Rs. 2 lakhs if engaged in non-manufacturing. However the upper limit

of financing by the Fund will be enterprises with investment in plant and machinery not exceeding Rs. 25 lakhs, if engaged in manufacturing and investment not exceeding Rs. 10 lakhs, if engaged in non-manufacturing activities.

- ✓ The main aim of NAFUS will be to bring about increased employment and higher incomes for people engaged in the unorganised sector by promoting and catalyzing the growth of the sector.
- ✓ NAFUS will cater to the developmental needs of the unorganised sector through assistance to a range of promotional and developmental activities in the areas of credit, marketing, skill development, technology up-gradation, refinance, factoring services and common infrastructure development.
- ✓ In order to fulfill its mandate, NAFUS will work in partnership with the existing financial institutions, national and state level agencies, micro-finance organisations, private and corporate bodies, R &D laboratories, marketing agencies, etc.
- ✓ In the field of credit, the Fund will provide credit assistance to unorganized sector through: (a) Refinance to banks and other financial intermediaries as in case of agriculture refinance, to supplement their efforts to provide credit to unorganised sector enterprises with investment in plant and machinery up to Rs. 5 lakhs, with an upper limit on enterprises with investment in plant and machinery up to Rs. 25 lakhs; (b) Provide micro finance support through NGOs/SHGs/ Micro Finance Institutions (MFIs)/Formal Financial Institutions (FFIs) like banks/cooperative banks/RRBs/ NBFCs, etc; (c) The Fund shall also provide seed capital and such other start up capital requirement for the new entrepreneurs in the unorganised sector.
- ✓ The operating targets for credit and development support are detailed as under: (a) Raise the bank credit availability for the unorganised sector enterprises with investment in plant and machinery up to Rs. 5 lakhs, from the current level of 2.2 per

cent to 5 per cent by 2011-12; (b) Raise the bank credit availability for the unorganised sector enterprises with investment in plant and machinery up to Rs. 25 lakhs from the current level of 5 per cent to 8 per cent by 2011-12; (c) Cover 500 districts for promotional and developmental support during the 11th Plan.

The Commission has made projections for the operations of the Fund for enterprises up to Rs. 5 lakh investment and all enterprises with investment up to Rs. 25 lakh respectively under specific assumptions: (1) The main uses of funds are (i) refinance, (ii) developmental support, (iii) interest payments on borrowed money and (iv) administrative expenses. These amounts have been estimated year-wise for the first five years of the Fund's operation; (2) We have also projected the financial sources of NAFUS. These will consist of the following: (a) Interest Income. This has 2 components. First is the interest income on refinance support at 7 per cent per annum. The second component is interest income on the investment of paid-up capital at 7 per cent per annum; (b) *GoI Budgetary Support*. The GoI budgetary support is proposed to meet three types of expenditure viz. grant based developmental support to the unorganised sector enterprise sector; regular administrative expenses; and compensation by way of an interest subsidy of 2 per cent from GoI as in case of agriculture loans; (c) *Market Borrowing*. The funding for the financial operations of the National Fund shall be largely met from domestic market borrowings through SLR bonds, tax free bonds, borrowing from the international markets with GoI bearing the exchange risk.

The Commission has assessed the impact of the increased credit and other development support activities through the Fund on employment and GDP. The additional employment created is likely to be around 22 million persons during the 11th Plan period. Further, it is estimated that the infusion of credit would lead to additional GDP growth of about 1.3 per cent per annum by the end of the Plan period.

- Therefore, creation of the National Fund for the Unorganised Sector (NAFUS) along the lines recommended by the Commission is likely to contribute significantly to financial inclusion, growth and poverty reduction.
- Creation of National Fund along with implementation of other recommendations to improve the credit flow to unorganised enterprises is likely to bring following impacts: (a) Creation of additional 27.8 million enterprises in a period of 5 years; (b) Creation of additional 50.2 million employment, and (c) Refinance intervention will lead to an addition of 1.23 per cent in GDP for units with investment in plant and machinery upto Rs 5 lakh and addition of 1.68 per cent in GDP for units in the investment in plant and machinery upto Rs 25 lakh. (Para 12.61 to 12.67)

15.70 Current economic meltdown has made the situation more alarming. Therefore in addition to the aforementioned suggestions, the Commission makes following additional recommendations for immediate action to improve access to credit to unorganised enterprises.

- The policy has to be more direct intervention so that credit is expanded in deserving sectors. This calls for adopting sectoral policies to increase the credit flows, operating on marketing incentives for the productive units. The sectoral policy should be based on the scope of expanding business on employment. Since micro enterprises (with investment in P&M of Rs 25 lakh) produce mainly for the domestic market (up to 80% of the production), the sectoral policy should aim at expanding the credit flow to this sector which is capable of expanding production and generate immediate employment.
- Directives should be issued to SIDBI and the Commercial Banks that at least 60 per cent of the stimulus package should be utilised on refinance for micro enterprises.

Availability of Credit Guarantee Scheme for loan upto Rs 5 lakh should be made mandatory for the banks. (Para 12.68 to 12.72)

Access to Technology, Marketing and Raw Materials¹⁰

15.71 Keeping in view the special requirements of the unorganised sector, the Commission makes the following recommendations for the creation of institutional framework to promote innovation, dissemination, acquisition and upgradation of technology in the unorganised sector enterprises:

- Creation of National Council for Technological Upgradation of the Unorganised Sector under the Chairmanship of the Prime Minister with State/ UT Chief Minister as Members, similar to the pattern of National Council on Skill Development set up recently.
- Adoption of Mission Mode Approach for Promotion of Technology in the Unorganised Sector through CSIR (a) To set up Technological Innovations and Dissemination Centres in each state and UT for unorganized sector enterprises; (b) To set up Functional Industrial Estates/ Integrated Resource Centres in identified clusters; (c) To set up Technology bank, for sourcing technology from India and abroad and facilitate technology transfer; (d) Co-ordination with existing R&D institutions and encourage R&D of indigenous technologies; (e) To promote dissemination of technology at local level through the District Industries Centres (DICs) and other technology centres engaged in promotion of unorganized sector; (f) To create innovation incubators and business incubators; (g) To stimulate and promote technology audits and address to environmental, safety and health concerns;
- These tasks have to be integrated at 5 levels: (a) National level-through the Focal Point/Apex institution and National Fund for Unorganised

¹⁰ See Chapter 13 for details

Sector; (b) State/Regional level-through Technological Innovations and Dissemination Centres; (c) District level-through District Industries Centres (DIC); (d) At cluster level through identified clusters; (e) R&D institution level- through respective R&D institutions and the institutions engaged in the task of promotion of micro, household and artisan enterprises. (Para 13.104 to 13.106)

15.72 The Commission recommends the following steps for technological and innovation dissemination/Awareness.

- ✓ Setting up Technological Innovations and Dissemination Centres in each state and UT
- ✓ District Industries Centres to be Nodal Agency at District Level for Technology Dissemination
- ✓ The DICs will be a link between the Central Government, Regional Technology Promotion Centre and the R&D institutions. For this, the Ministry of MSME in co-ordination with the Ministry of Textiles, Food Processing and Rural Development should formulate a Central Scheme of Technology Dissemination to be implemented through the DICs tool work as centre for display and dissemination of technology. (Para 13.108 to 13.111)

15.73 The Commission is of the view that the following measures are needed to enhance skills and entrepreneurship development:

- ✓ *Strengthening Polytechnics and ITIs for Rural /small town areas for linking technology with skill:* The Commission strongly recommends that Polytechnics and Industrial Training Institutes should be encouraged to organize short-term programs for vocational training of school dropouts in a variety of multi-skilled job positions that would be available in MSEs. In evolving these training programs industry involvement should be mandatory and employer-based training programs should be encouraged.
- ✓ *Creating a climate for Entrepreneurship:* Recognition/ incentives for innovation and entrepreneurship in

the clusters and education institutes must be introduced. *An enhancement in budget in all schemes promoting innovation and entrepreneurship is recommended.*

✓ *Adoption of Unorganised Enterprises by Technical Colleges*

✓ *IPR and related matters:* There is a strong need for spreading awareness of IPR amongst the MSEs. Patenting should be encouraged by offering financial support/subsidies. Likewise, quality assurance, eco-labeling, bar-coding *etc.* of products should be encouraged in a big way. (Para 13.112 to 13.115)

15.74 The Commission feels that there is scope for rationalizing, simplifying and expanding schemes for technology upgradation.

- ✓ Revise Technology Upgradation Fund Scheme of the Ministry of Textile to make it accessible to Handloom and Handicraft Sector without Conditionality of minimum amount of loan and submission of Balance Sheet

✓ Technology Upgradation Fund Scheme of the Ministry of Textile is termed as a flagship scheme, with bold outlays and visible impact in the textile sector. However, due to some of the conditions of this scheme, unorganised handloom and powerloom units are not in a position to benefit from this scheme. This scheme is available both in the form of interest subsidy (5 per cent) and capital subsidy (20 per cent). There is a need to revise this scheme in favour of the unorganised enterprises and that the rate of Capital Subsidy should be raised to 25 per cent for the handloom enterprises with loan requirement upto Rs 15 lakh.

✓ Broad Base Credit Linked Capital Subsidy Scheme (CLCSS) for Technology Upgradation of Micro and Small Enterprises. It would be appropriate to raise rate of subsidy to 25 per cent under Credit Linked Capital Subsidy Scheme of the Ministry of MSME for the micro enterprises with investment in plant and machinery less than Rs 5 lakhs for loan requirement of Rs 15 lakh for technology upgradation.

It is recommended that Mini Tool Room cum Testing Centres be set up in all MSME Development Institutes by revamping the existing workshops. There are 58 such institutes under Ministry of MSME. The testing centres should cover testing facilities for important product lines falling within the reach of Development Institutes and Branch Institutes. (Para 13.116 to 13.118)

15.75 In order to ensure linkages between large and unorganized enterprises that contribute to the growth and competitiveness of MSEs, incentives need to be provided for the following four forms: (i) Backward linkages with suppliers; (ii) Linkages with technology partners; (iii) Forward linkages with customers and adoption of high skill programme, etc.; (iv) Other spillover effects such as demonstration effects. (Para 13.119)

15.76 For addressing the problem of credit access for technological upgradation, it is specifically recommended that loans upto Rs 5 lakh for technology upgradation by unorganised enterprises should necessarily be covered under the Credit Guarantee Scheme and without collateral. Secondly, the guarantee cover should be raised to 90 per cent for Micro Enterprises, Artisan Enterprises and Traditional industries for loans upto Rs 15 lakh sanctioned for technology upgradation. This is on the assumption that cost of technology upgradation is relatively high. (Para 13.122)

15.77 To enhance access to marketing, efforts are needed to strengthen producer registration and enterprise recording systems as to enable more producers to use market information in formal production planning and acquire marketing skills. Institutional mechanisms need to be devised to bring enterprises together to form groups (e.g., associations or co-operatives) to enhance both economies of scale in production and marketing. (Para 13.123)

15.78 To enhance access to raw materials, the Commission recommends the following.

State Industries/Small Industries Development Corporations (SIDCs/SSIDCs)/ National Small

Industries Corporation (NSIC) should enlarge their raw material portfolio so that scarce / imported raw materials/energy inputs are available to micro and small enterprises at their doorsteps.

Raw Materials banks are to be encouraged in identified clusters of micro and small enterprises, to be managed by concerned associations/ consortiums of beneficiaries so as to take advantages of bulk purchasing.

Micro and small enterprises in unorganised sector should also be encouraged to get them registered with DICs/ Excise authorities and to adopt market friendly practices so that they can directly deal with raw material manufacturers/ consignee agents/canalsing agencies.

Trade barriers like imposition of safeguard/ antidumping duty on imports of vital raw materials create unnecessary pressure on free availability of such raw materials. User industry concerns should be taken into account prior to imposition of such duties. (Para 13.124)

Cluster-Based Growth Poles for the Unorganised Sector¹¹

15.79 The Commission has piloted Cluster-Based Growth Poles for the unorganized sector, based on a concept of developing cluster of clusters in project mode with public-private partnership. The outcomes of the pilot approach, reflected in the Detailed Project Reports (DPRs) prepared for the states of Rajasthan, West Bengal, Kerala, Chattisgarh, Uttarakhand and Assam has now led the Commission to recommend the adoption of Growth Pole model for cluster development. (Para 14.79)

15.80 The Commission's recommendations of Growth Poles involves an upscaling of cluster development efforts through provision of common infrastructure, service centres etc. designed to take the existing cluster development approach to the next level. It is based upon strengthening natural clustering of industrial units to achieve economies of scale in skill acquisition, technology development, marketing, etc assuming that clusters once developed would lead to a multiplier effect on production

¹¹ See Chapter 14 for details

and employment as also a spread effect in rural areas. (Para 14.86)

15.81 An SPV may be formed for the Growth Pole consisting of stakeholders from within and outside the area to enable focused development in the region. This is proposed to be initiated under a strong public private partnership approach where the stakeholders are participants from the inception of the programme. (Para

15.82 The Commission recommends that 25 growth poles (one in each state) be supported during the 11th Plan. (Para 14.86)

15.83 The Commission also recommends that Growth Poles should be given the same incentives as those that are offered to Special Economic Zones (SEZ). This will facilitate the unorganised sector enterprises and thus have a stimulating multiplier effect on the economy. (Para 14.88)

15.84 A new implementation mechanism needs to be evolved for the timely, effective and beneficiary-oriented

roll-out at the grass root level. It is recommended that DPRs be approved by the Ministry of MSME and allocations of funds be made in respect of the entire six pilot growth poles.

15.85 The approach and strategy to be adopted in growth pole projects should be multi-sector, multi-disciplinary, linkage-oriented, participatory, consultative and outcome-oriented and should build-up on the need-based physical and social infrastructure. (Para 14.87)

15.86 The DPR should be so structured that it serves like a handbook and leading to an action plan for implementing agencies. The DPR should also provide demonstrative models for the proposed programmes and activities for a year wise rolled out plan. (Para 14.87)

15.87 A comprehensive policy package/scheme should be prepared with physical and financial participation of the central and state governments, banks, financial institutions, and users/private stakeholders clearly demarcated. (Para 14.87)

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1. Dr. Atul Sood (2007), *Buyer regulated labour conditions in commodity production chains in India.*
2. Dr. C. S. Prasad (2007), *Work relating to follow up of financing work, raw material and any other task that may be assigned by NCEUS.*
3. Dr. C.S Venkata Ratnam (2008), *Preparation of the chapter on 'Labour Law reforms including that of Industrial Disputes Act and Contract Labour (Regulation and abolition) Act'.*
4. Dr. C.S. Prasad (2006), *Status of Lending (factual position) to Micro-enterprises and Non-farm Enterprises with investment in plant and machinery (i) up to Rs. 5 lakh and (ii) between Rs. 5 lakh to Rs. 25 lakh and the policy and procedural modification required to improve the flow of credit to these enterprises.*
5. Dr. C.S. Prasad (2008), *(1) To finalise the following NCEUS reports: (i) Growth Pole (ii) Technology Development (iii) Handloom & Handicraft Development (2) To take up any other work relating to Financing of Unorganised Sector and Creation of National Fund as required by the Commission.*
6. Dr. C.S. Prasad (2008), *Academic work based on the available documentation to delve deeper.*
7. Dr. C.S. Prasad (2008), *Academic work on Financial Inclusion of Unorganised Enterprises.*
8. Dr. G. Raveendran (2007), *Determine the linkage between the incidence of poverty, social groups, educational status and informal employment by using the data sets of National Sample Survey Organization (NSSO).*
9. Dr. G. Raveendran (2007), *Paper on Changes in Employment Pattern with special references to Unorganised Sector Employment.*
10. Dr. G. Raveendran (2008), *Employment Projections.*
11. Dr. G. Raveendran (2008), *Employment Strategy.*
12. Dr. G. Raveendran (2009), *Study on employment projection based on industry wise and sector wise employment elasticities and GDP growth rates.*
13. Dr. J. Jeyaranjan (2008), *Position paper on Issues relating to viability of micro and small enterprises with special reference to technology acquisition and upgradation.*
14. Dr. Jesim Pais (2007), *Linkages between Large Enterprises and the Unorganized Sector: Review of Issues and Past Studies.*
15. Dr. Kamala Shankaran (2006), *Preparation of revised draft of the Conditions of work for Unorganised Workers, 2004.*
16. Dr. Kamala Shankaran (2006), *Reform of Labour Laws.*
17. Dr. M. R. Murthy (2007), *Sub-contracting Relations between Large Enterprises and the Unorganized Sector: Evidence from a Primary Survey.*
18. Dr. Navin Chandra (2008), *Preparation of the chapter on 'A framework for preparing A Labour Code' for the report of the said Task Force.*

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20. Dr. Partha Partim Sahu (2007), *Sub Contracting Relations based on Secondary Data.*
21. Dr. Pradeep K. Panda (2008), *Study work leading to the preparation of a Report on Employment Strategy.*
22. Dr. Pradeep K. Panda (2009), *Preparation of few draft chapters editing revising, chapters relating to Micro Enterprises Development etc.*
23. Dr. Praveen Jha (2008), *Preparation of the chapter on 'Unemployment Insurance Scheme for retrenched workers' for the report of the said Task Force.*
24. Dr. R. Nagaraj (2006), *Background paper on Industrial Labour laws in India.*
25. Dr. Sumangala Damodaran (2007), *Study on 'Skill Development initiatives in India'.*
26. Dr. Sumangala Damodaran (2008), (1) *Preparing draft chapters on linkages between the formal and informal sector in India and the terms on which informal enterprises interact with formal ones across industries, with a view to making appropriate recommendations for the development of enterprises in the informal sector.* (2) *A paper on a critical review of policies and existing schemes for the development of micro enterprises and recommendations for their improvement.* (3) *Preparing a draft chapter on issues relating to innovation and technological upgradation in industries that have a substantial informal sector presence.*
27. Dr. Sumangala Damodaran (2008), *The preparation of the report of Task Force on Enterprise Development and other assignments.*
28. Dr. Sumangala Damodaran (2009), (1) *To prepare a pre-final full draft of the Report of the Task Force on Enterprise Development by the end of January.* (2) *To undertake correction of and additions to the draft in the month of February.* (3). *To finalise the Employment Report in the month of March.*
29. Dr. Sunit Singh (2008), *Study on expanding training of unorganised sector workers in Allahabad (U.P).*
30. Dr. Y. P. Sabharwal (2008), *Study on extending the benefits available under the Rajiv Gandhi Shramik Kalyan Yojana (RGSKY) being operated by ESIC.*
31. M/s G. K. Kedia (2007), *Report for setting up of National Fund.*
32. Mr. Arup Mitra (2009), (1) *Assess the impact of trade on employment generation in the servicing sector in India since the early nineties that marked the initiation of major economic reforms in the economy.* (2) *Given that the divergence between employment and output growth in the formal and informal sectors, examine the impact of trade on employment in these two sectors separately.* (3). *Suggest policies and programmes relating to trade that will help further increase employment generation in the economy.*
33. Mr. B. N. Goldar (2009) (1) *Assess the impact of trade on employment generation in the servicing sector in India since the early nineties that marked the initiation of major economic reforms in the economy.* (2) *Given that the divergence between employment and output growth in the formal and informal sectors, examine the impact of trade on employment in these two sectors separately.* (3). *Suggest policies and programmes relating to trade that will help further increase employment generation in the economy.*

34. Ms. Jaya Arunachalam (2006), *A diagnostic study on the silk weavers of Kachipuram in Tamil Nadu and Varanasi in Uttar Pradesh.*
35. Ms. R. Geeta (2007), *Conditions of unorganised sector workers in different sectors, with special reference to the states of Tamil Nadu and Karnatka and the impact of the globalization.*
36. Ms. Richa Singh (2006), *Employment, Unemployment and wages and earning in Rural Worker – Research Project “Trend in employment earnings in India”.*
37. Ms. Swati Sachdeva (2006), *Working and living conditions in the farm and non-farm informal economy.*
38. Ms. T. Shobha (2009), *Study project on estimation of workforce in the public and private sectors and in the unorganised and organized sectors based on various data sources and others.*
39. Professor Atul Sarma (2006), *The Informal Sector in the Northeast with a specific focus on possible Policy Thrust for the Commission.*
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82. Shri Shailendra Sharma (2006), *Research project existing programmes relating to employment generation in the informal / unorganised sector and scope for their redesign.*
83. Shri Sharad Goswami (2008), *(1) Preparation of summary document based on the Commission's analytical work i) Definitional and Statistical Issues relating to Informal Economy ii) A Special Programme for Marginal and Small Farmers iii) Proposal for Protection of the Unorganised Sector from Global Economic Crisis (2) Preparation of summary report on the basis of above. (3) Dissemination of the summary document in Delhi and in regional centers at i.e. Mumbai, Bangalore and Kolkatta.*
84. Shri Suresh Babu M (2008), *Position paper on Innovation for the SMEs.*
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86. Shri Swami Agnivesh (2007), *Conducting a survey-cum-study on the working of unorganized sector workers in Delhi and NCR.*
87. Shri Upendranath (2009), *Study project on prepare a draft chapter on Public Employment Strategies in India focusing on NREGP.*

Abbreviations

ACF	Ambuja Cement Foundation
AICTE	All India Council of Technical Education
AMFL	Artisans Micro Finance
ANBC	Adjusted Net Bank Credit
APEC	Apparel Export promotion Council
APMC	Agriculture Produce Marketing Committee Act
ASCENT	Asian Centre for Entrepreneurial Initiative
ASDR	Age-specific Death Rates
ASFR	Age-specific Fertility Rate
ASI	Annual Survey of Industries
ATIRA	Ahmedabad Textile Industry's Research Association
ATMA	Agricultural Technology Management Agency
ATS	Apprenticeship Training Scheme
BDS	Business Development Services
BIMARU	Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh
BIS	Bureau of Indian Standards
BPL	Below Poverty Line
CAD	Computer Aided Design
CAS	Computer Aided Software
CBGP	Cluster Based Growth Poles
CCIE	Cottage Emporium
CCM	Cohort Component Method
CDP	Cluster Development Programme
CDS	Current Daily Status
CESS	Centre for Economic and Social Studies
CETPs	Common Effluent Treatment Plants
CFCs	Common Facility Centres
CFTI	Central Footwear Training Institute
CGF	Credit Guarantee Fund
CIDC	Construction Industry Development Council

CII	Confederation of Indian Industry
CLA	Contract Labour Act
CLCSS	Credit Linked Capital Subsidy Scheme
CLRI	Central Leather Research Institute
CMERI	Central Mechanical Engineering Research Institute
CMIE	Centre for Monitoring Indian Economy
CPRs	Common Property Resource
CSH	Center De Sciences & Humanities
CSIR	Council for Scientific and Industrial Relations
CSR	Corporate Social Responsibility
CTS	Craftsmen Training Scheme
CWS	Current Weekly Status
DAP	District Agricultural Plan
DC	Development Commissioner
DGET	Directorate General of Employment and Training
DICs	District Industries Centres
DME	Directory Manufacturing Establishment
DPRs	Detailed Project Reports
DSDC	District Skill Development Council
DVC	Domestic Value Chains
EAS	Employment Assurance Scheme
EDI	Entrepreneurship Development Institute
EDP	Entrepreneurship Development Programmes
ELR	Employer of Last Resort
EMI	Employment Market Information
EPF	Employees Provident Fund
ESDP	Entrepreneurship Skill Development Programmes
ESIA /C	Employees State Insurance Act / Corporation
ETOs	Extraterritorial Organisations
ETPs	Effluent Treatment Plants
FDDI	Footwear Design and Development Institute
FFIs	Formal Financial Institutions

FNCL	First National Commission on Labour
FWWB	Friends of Women's World Banking
GAIL	Gas Authority of India Limited
GBC	Gross Bank Credit
GBPSSI	G. B. Pant Social Science Institute
GDP	Gross Domestic Product
GVA	Gross Value Added
GVC	Global Value Chains
HDPE	High Density Polyethylene
HPL	Hindustan Petroleum Limited
HRD	Human Resource Development
HYV	High Yielding Variety
IAY	Indira Awas Yojana
ICCO	Interchurch Organization for Development Co-operation
ICDS	Integrated Child Development Scheme
ICICI	Industrial Credit and Investment Corporation of India
IDA	Industrial Disputes Act
IDBI	Industrial Development Bank of India
IDS	Institute of Development Studies
IEC	Information, Education and Communication
IGNOU	Indira Gandhi National Open University
IHD	Institute for Human Development
IIPS	International Institute for Population Studies
ILO	International Labor Organisation
IMG	Inter Ministerial Group
IPCL	Indian Petrochemicals Corporation Limited
IPR	Intellectual Property Right
ISEC	Interest Subsidy Eligibility Certification
ISID	Institute for Studies in Industrial Development
ISO	International Standards Organisation
ITCs	Industrial Training Centres
ITIs	Industrial Training Institutes

IWG	Internal Working Group
JADS	Jagrut Adivasi Dalit Sangathan
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
JRY	Jawahar Rojgar Yojana
JSS	Jan Shikshan Sansthan
KVIB	Khadi and Village Industries Board
KVIC	Khadi and Village Industries Commission
L	Lower Limit
LABS	Livelihood Advancement Business School
LDPE	Low-density polyethylene
LEB	Life Expectancy at Birth
LFPR	Labour force Participation Rates
LLDPE	Low Linear Density Polyethylene
LTM	Leather Technology Mission
MAYA	Movement for Alternatives and Youth Awareness
MCWS	Modified Current Weekly Status
MDA	Market Development Assistance
ME	Micro Enterprise
MES	Modular Employable Skills
MFIs	Micro Finance Institutions
MHRD	Ministry of Human Resource Development
MIS	Management Information System
MMA	Macro Management of Agriculture
MMT	Million Metric Tons per Annum
Mn	Million
MNCs	Multi-national Companies
MoA	Ministry of Agriculture
MOLE	Ministry of Labour and Employment
MoRD	Ministry of Rural Development
MoU	Memorandum of Understanding
MSE	Marginal and Small Enterprises
MSFDS	Marginal and Small Farmers' Development Society

MSME/DIs	Ministry of Micro, Small and Medium Enterprises
MSP	Minimum Support Price
NABARD	National Bank for Agriculture and Rural Development
NADP	National Agricultural Development Programme
NAFUS	National Fund for the Unorganised Sector
NALSA	National Legal Services Authority
NBC	Net Bank Credit
NBFCs	Non- Banking Financial Companies
NCEUS	National Commission for Enterprises in Unorganised Sector
NCF	National Commission on Farmers
NCL	National Commission on Labour
NCRL	National Commission on Rural Labour
NCSD	National Council on Skill Development
NCVT	National Council for Vocational Training
NDME	Non-Directory Manufacturing Establishment
NE	North East
NEERI	National Environmental Engineering Research Institute
NFHS	National Family Health Surveys
NFSM	National Food Security Mission
NFUE	Non-Farm Unorganised Enterprises
NID	National Institute of Design
NIOS	National Institute of Open Schooling
NISTADS	National Institute of Science, Technology and Development
NLDP	National Leather Development Programme
NLLA	National Labour Law Association
NMCP	Netherlands Management Cooperation Programme
NPA	Non-Performing Assets
NREGP/A	National Rural Employment Guarantee Programme/Act
NREGS	National Rural Employment Guarantee Scheme
NREP	National Rural Employment Programme
NSDCB	National Skill Development Coordination Board
NSIC	National Small industries Corporation

NSS/NSSO	National Sample Survey/Organisation
NTFP	Non Timber Forest Produce
OAEs	Own Account Enterprises
OAME	Own Account Manufacturing Enterprise
OBCs	Other Backward Castes
OECD	Organisation of Economic Cooperation and Development
OGI	Open General Licence
P&M	Plant and Machinery
PDS	Public Distribution System
PLR	Prime Lending Rate
PMEGP	Prime Minister's Employment Generation Programme
PMRY	Prime Minister's Rojgar Yojana
PO	Payment Order
PP	Polypropylene
PPP	Purchasing Power Parity
PRI	Panchayati Raj Institutions
PS	Polystyrene
PTWs	Part-time Workers
PURA	Provision of Urban Facilities in Rural Areas
PVC	Polyvinyl Chloride
R&D	Research and Development
RBI	Reserve Bank of India
RBIIWG	Reserve Bank of India Internal Working Group
REGP	Rural Employment Generation Programme
RFIE	Rural Functional Industrial Estates
RIL	Reliance Industries Limited
RIN	Rural Innovations Network
RKVI	Rashtriya Krishi Vikas Yojana
RLEGP	Rural Labour Employment Guarantee Programme
RMK	Rashtriya Mahila Kosh
RRBs	Regional Rural Banks
RUDA	Rural Non-farm Development Agency

S&T	Science and Technology
SAIL	Steel Authority of India Limited
SAP	State Agriculture Plans
SC	Scheduled Caste
SCB	Scheduled Commercial Banks
SCVT	State Council for Vocational Training
SDI	Skill Development Initiative
SECURE	Strategic Expansion of Carcass Utilization for Rural Employment
SEDF	Small Enterprise Development Fund
SEWA	Self Employed Women's Association
SEZs	Special Economic Zones
SFC	State Financial Corporations
SFDA	Small Farmers Development Agencies
SGRY	Sampoorna Grameen Rojgar Yojana
SGSY	Swarnjayanti Gram Swarozgar Yojana
SHG	Self Help Group
SIDBI	Small Industries Development Bank of India
SIDCs/SSIDCs	State Industries / Small Industries Development Corporations
SISI	Small Industries Service Institutes
SITRA	South India Textile Research Association
SJSSY	Swarnjayanti Sahari Swarozgar Yojana
SLR	Statutory Liquidity Ratio
SME	Small and Medium Enterprises
SNCL	Second National Commission on Labour
SPM	Special Purpose Machines
SPV	Special Purpose Vehicle
SRS	Sample Registration System
SS	Subsidiary Status
SSI	Small Scale Industries
SSICs	Small Industries Corporations
SSSY	Swarnjayanti Shahari Swarozgar Yojana
ST	Scheduled Tribe

SUE	Severely unemployed
SVPITM	Sardar Vallabhbhai Patel Institute of Textile Management
TAU	Technology acquisition and upgradation
TBI	Technology Business Incubator
TFR	Total Fertility Rate
TIDCs	Technological Innovation and Dissemination Centres
TIFAC	Technology Information Forecasting Assessment Council
TRIFED	Tribal Co-Operative Marketing Development Federation
TUFS	Technology Upgradation Fund Scheme
TVET/VET	Technical and Vocational Education and Training
U	Upper Limit
UCB	Urban Cooperative Bank
UGC	University Grants Commission
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UPA	United Progressive Alliance
UPS	Usual Principal Status
UPSS	Usual Principal and Subsidiary Status
USA	United States of America
USD	United States Dollar
USP	Unique Selling Proposition
VAT	Value Added Tax
VRS	Voluntary Retirement from Service
VSI	Village and Small Industries
VTPs	Vocational Training Provider
WDP	Watershed Development Programme
WPR	Workforce Participation Rate
WTO	World Trade Organisation

The Challenge of Employment in India

An Informal Economy Perspective

Volume II - Annexures



सत्यमेव जयते

**NATIONAL COMMISSION FOR ENTERPRISES
IN THE UNORGANISED SECTOR**

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Previous reports of National Commission for Enterprises in the Unorganised Sector

1. Social Security for Unorganised Workers, May 2006
2. Comprehensive Legislation for Minimum Conditions of Work and Social Security for Unorganised Workers, July 2007
3. Conditions of Work and Promotion of Livelihood in the Unorganised Sector, August 2007
4. Financing of Enterprises in the Unorganised Sector & Creation of a National Fund for the Unorganised Sector (NAFUS), November 2007
5. Report on Definitional and Statistical Issues relating to Informal Economy, November 2008
6. A Special Programme for Marginal and Small Farmers, December 2008
7. Growth Pole programme for Unorganised Sector Enterprise Development, April 2009
8. Skill Formation and Employment Assurance in the Unorganised Sector, April 2009
9. A Report on Technology Upgradation for Enterprises in the Unorganised Sector, April 2009

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1. Measure of Labour Force Participation and Utilization, January 2008
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3. Definitional and Statistical Issues Relating to Workers in Informal Employment, January 2009.

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Annex 1.1: Past and Present Composition of the Commission

The composition of the Commission is as follows:

Professor Arjun Sengupta

Chairman,
Centre for Development and Human Rights,
New Delhi

Chairman,

[From 20.09.2004 to 01.07.2005 and from
17.11.2005 till date]

Professor K. P. Kannan

Fellow,
Centre for Development Studies,
Ulloor, Thiruvananthapuram 695011, Kerala

Full-time Member

[From 01.11.2004 till date]

Professor Ravi S. Srivastava

Professor,
Centre for Studies in Regional Development,
Jawaharlal Nehru University, New Delhi 110067

Full-time Member

[From 01.05.2006 till date]

Shri V.K. Malhotra, IAS (Retd.)

Member Secretary

[From 01. 03.2006 till date]

Shri B.N. Yugandhar

Member,
Planning Commission,
New Delhi 110001

Part-time Member

[From 05.11.2004 till date]

Professor T.S. Papola

Director,
Institute for Studies in Industrial Development,
Vasant Kunj Institutional Area, New Delhi.110070

Part-time Member

[From 06.04.2005 till date]

Professor K. Jayashankar

Former Vice Chancellor, Kakatiya University,
Warangal, Andhra Pradesh

Full-time Member

[From 01.12.2004 to 9.03.2006]

Shri Bibek Debroy,

Director,
Rajiv Gandhi Institute for Contemporary Studies,
New Delhi 110001.

Part-time Member

[From 27.10.2004 to 20.12.2005]

Shri K.K. Jaswal, IAS (Retd.)

Member Secretary

[From 01.11.2004 to 18.02.2006]

Annex 1.2: Composition of the Advisory Board

1. **Professor Bhalchandra Mungekar,**
Member, Planning Commission,
Yojana Bhavan, New Delhi.
2. **Swami Agnivesh,**
President, Bonded Labour Liberation Front,
13, South Avenue, New Delhi.
3. **Professor Sheila Bhalla,**
(Formerly Professor of Economics,
Jawaharlal Nehru University, New Delhi)
Institute of Human Development,
Old IAMI Building (3rd Floor).
I.P.Estate, Mahatma Gandhi Marg,
New Delhi-110002.
4. **Professor Mahendra Dev,**
Director, Centre for Economic and Social Studies,
Begumpet, Hyderabad.
5. **Ms. Madhu Kishwar,**
Editor, Manushi
C-1/3 Sangam Estate, 1, Underhill Road, Civil Lines,
Delhi-110054.
6. **Ms. Mirai Chatterjee,**
Self-Employed Women's Association (SEWA)
Opposite Victoria Garden, Bhadra, Ahmedabad-380001.
7. **Shri Joginder Kumar**
President,
Federation of Tiny & Small Scale Industries of India (FTSSI),
General Metal Industries, B-189, Industrial Estate,
Ludhiana, Punjab.
8. **Professor Jean Dreze,**
Delhi School of Economics, Department of Economics,
Delhi University, Delhi-110007.
9. **Professor Amit Bhaduri,**
Council for Social Development,
53, Lodhi Estate, New Delhi - 110003.
10. **Secretary,** Special Invitee
Ministry of Micro, Small and Medium Enterprises
Udyog Bhawan, New Delhi
11. **Secretary,** Special Invitee
Ministry of Labour & Employment
Shram Shakti Bhawan, New Delhi

Annex 1.3: Task Forces and Technical Expert Groups Constituted

File No.A-25022/11/2005-NCEUS
NCEUS

19th Floor, Jawahar Vyapar Bhavan
1 Tolstoy Marg, New Delhi-110 001
Dated the 16th May, 2005

ORDER

Subject:- Constitution of Task Force on Social Security for Workers in the Unorganised Sector

- | | | |
|----|--|-----------------|
| 1. | Professor K.P. Kannan,
Member, National Commission
for Enterprises In the Unorganised Sector, 19 th Floor,
Jawahar Vyapar Bhavan, New Delhi-110001 | Chairman |
| 2. | Ms. Mirai Chatterjee,
Self Employed Women's
Association (SEWA),
Opposite Victoria Garden,
Bhadra, Ahmedabad-380001 | Member |
| 3. | Professor S. Mahendra Dev,
Director, Centre for Economic and Social Studies,
Begumpet, Hyderabad | Member |
| 4. | Professor Ravi Srivastava
Professor of Economics,
Centre for Studies in Regional Development,
School of Social Sciences,
Jawaharlal Nehru University,
New Delhi-110067 | Member |
| 5. | Professor Alakh N, Sharma,
Director, Institute for Human Development,
NIDM Building, 3 rd Floor, IIPA
Campus, IP Estate, New Delhi-2 | Member |
| 6. | Dr. N. Vijayamohanan Pillai,
Associate Fellow, Centre for Development Studies,
Prasanth Nagar, Ulloor,
Thiruvananthapuram-695011, Kerala | Member |
| 7. | Professor Jeemol Unni,
Professor, Gujarat Institute of Development Research, Gota,
Ahmedabad-380 060 (India) | Member |

- | | | |
|-----|---|-----------------|
| 8. | Swami Agnivesh,
Member, Advisory Board, NCEUS,
13, South Avenue, New Delhi-110001 | Member |
| 9. | Director General (Labour Welfare),
Ministry of Labour and Employment,
Government of India,
Shramshakti Bhavan,
New Delhi-110001 | Member |
| 10. | Professor Achin Chakraborty,
Professor of Economics,
Institute of Development Studies,
1, Reformatory Street, Kolkata University
Alipur Campus, 5th Floor, Kolkata | Member |
| 11. | Shri Mahesh Kumar,
Director, NCEUS | Convenor |

Annex 1.3 Contd

File No.A-25022/11/2005-NCEUS
NCEUS

19th Floor, Jawahar Vyapar Bhavan
1 Tolstoy Marg, New Delhi-110 001
Dated the 16th May, 2005

ORDER

Subject:- Constitution of Task Force on Definitional and Statistical Issues relating to the Unorganised Sector.

It has been decided that a Task Force on Definitional and Statistical Issues relating to the Unorganised Sector be set up.

2. The composition of the Task Force shall be as follows:

- | | |
|---|------------------------|
| <p>1. Professor Arjun K. Sengupta, Chairman
National Commission for Enterprises in the Unorganised Sector, (NCEUS)
19th Floor, 1, Tolstoy Marg, Jawahar Vyapar Bhavan,
New Delhi-110001</p> | <p>Chairman</p> |
| <p>2. Professor K.P. Kannan,
Member, NCEUS,
19th Floor, 1, Tolstoy Marg,
Jawahar Vyapar Bhavan, New Delhi-110001.</p> | <p>Member</p> |
| <p>3. Professor T.S. Papola,
Part Time Member, NCEUS,
Director, Labour Expert,
Institute for Studies for Industrial Development,
Narendra Niketan, I.P. Estate, New Delhi-110002</p> | <p>Member</p> |
| <p>4. Dr. N.S. Sastry,
Parsila Bhavan, N.C.A.E.R. 11,
I.P. Estate, M.G. Road, New Delhi-110002</p> | <p>Member</p> |
| <p>5. Professor Sheila Bhalla,
Member, Advisory Board, NCEUS,
Institute for Human Development,
NIDM, Building, (3rd Floor), I.P. Estate,
Mahatma Gandhi Marg, New Delhi-2</p> | <p>Member</p> |
| <p>6. Ms. Renana Jhabwala,
President, SEWA BHARAT,
7/5, First Floor, South Patel Nagar, New Delhi – 08.</p> | <p>Member</p> |

- | | | |
|-----------|--|-----------------|
| 7. | Dr. G. Raveendran,
Additional Director General, Central Statistical
OrganisationSardar Patel Bhavan,
Parliament Street, New Delhi-110001 | Member |
| 8. | Shri S.V. Ramana Murthy
Deputy Secretary, NCEUS
19 th Floor, 1 Tolstoy Marg,
Jawahar Vyapar Bhavan, New Delhi-110001. | Convenor |

Annex 1.3 Contd

A-25024/9/2005-NCEUS
Government of India
National Commission for Enterprises in the Unorganized Sector

16th /19th Floor, Jawahar Vyapar Bhawan,
1, Tolstoy Marg, New Delhi 110001
Dated the 9th June, 2005

ORDER

Subject: Constitution of Task Force on Skill Formation in the Unorganised Sector.

It has been decided to set up a Task force on Skill Formation in the Unorganised Sector.

The composition of the Task Force shall be as follows:

- | | | |
|----|--|----------|
| 1. | Shri K.K.Jaswal,
Member Secretary, NCEUS | Chairman |
| 2. | Shri B.N.Yugandhar, Part Time Member, NCEUS
Member, Planning Commission,
Yojana Bhawan, Sansad Marg,
New Delhi | Member |
| 3. | Dr.Madhav Chavan, Director, PRATHAM
B3/3, Safdarjung Enclave, 1st Floor,
New Delhi | Member |
| 4. | Lt.General (Retd.) S.S.Mehta,
Principal Adviser,CII
India Development Foundation
249F, Sector 18, Udyog Vihar,
Phase IV, Gurgaon | Member |
| 5. | Ms.Nalini Gangadharan, Executive Director
Dr. Reddy's Foundation
6-3-668/10/77&78, Durganagar Colony
Punjagutta, Hyderabad- | Member |
| 6. | Shri K. K.Mittal, DGE&T,
M/o Labour & Employment
Shram Shakti Bhawan,
Rafi Marg, New Delhi | Member |
| 7. | Dr.S.D.Awale, Joint Education Advisor (Technical),
D/o Secondary & Higher Education,
Ministry of Human Resource Development,
Shastri Bhawan, New Delhi | Member |

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| 8. | Shri Sharda Prasad , Labour Commissioner,
Government of Uttar Pradesh,
G.T.Road, Kanpur | Member |
| 9. | Smt.Neelam Nath ,
Joint Secretary, NCEUS | Member Secretary |
| 10 | Shri J .D. Hajela ,
Director NCEUS | Convenor |

Annex 1.3 Contd

A-25022/ 26/2005-NCEUS
Government of India
National Commission for Enterprises in the Unorganised Sector

16th /19th Floor, Jawahar Vyapar Bhawan,
1, Tolstoy Marg, New Delhi 110001
Dated the 20th April, 2006

ORDER

Subject:- Constitution of Task Force on Access to Finance, Raw Materials and Marketing relating to the Unorganised Sector.

It has been decided that a Task Force on Access to Finance, Raw Materials, and Marketing relating to the Unorganised Sector be set up.

- | | | |
|----|---|----------|
| 1. | Professor V.S. Vyas,
Institute of Development Studies,
8-B, Jhalna Institutional Area, Jaipur. | Chairman |
| 2. | Professor K P Kannan,
Member, NCEUS. | Member |
| 3. | Shri V.K. Malhotra
Member, NCEUS. | Member |
| 4. | Dr. Y.S. P. Thorat,
Managing Director,
National Bank for Agriculture and Rural Development, (NABARD),
Plot C-24, Bandra-Kurla Complex P.B. No. 8121,
Bandra (E) Mumbai | Member |
| 5. | Shri. N. Balasubramanian,
Chairman & Managing Director,
Small Industries Development Bank of India (SIDBI),
SIDBI Tower, 15, Ashok Marg, Lucknow- | Member |
| 6. | Shri. A.V. Sardesai,
C-16, Kumar Elixir, Banner Road, PUNE. | Member |
| 7. | Dr. S.L. Shetty,
Director,
Economic and Political Weekly Research Foundation, (EPW),
C-212, Akurli Industrial Estate,
Kandivali (East), Mumbai. | Member |

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| 8. Shri Nachiket Mor,
Advisory Board Member, (NCEUS).
Exe. Director, ICICI Bank Ltd.,
ICICI Tower, Bandra Kurla Complex, Mumba | Member |
| 9. Shri Kamal Taori,
Director General,
National Productivity Council,
5&6, Institutional area, Lodhi Road,
New Delhi | Member |
| 10. Shri Joginder Kumar,
President,
Federation of Tiny & Small Industries of India, Mg. Partner,
General Metal Industries, B-189,
Industrial estate, LUDHIANA | Member |
| 11. Shri. C. Chandran, IAS,
Chief Executive Officer and Commissioner,
Khadi & Village Industries Commission,
Irla Road, Vile Parle (W), Mumbai | Member |
| 12. Ms. Achala,
SADAN,
12&13, 2nd Floor, MPTCD Building,
Special Institutional Area,
Shaheed Jeet Sing Marg,
New Delh | Member |
| 13. Ms. Jayashree Vyas,
Member
MD,
Self Employed Women's Association (SEWA) Bank,
Ellis Bridge, Ahmedabad | |
| 14. Secretary,
Ministry of Textiles, Udyog Bhawan , New Delhi | Member |
| 15. Shri Vipin Sharma,
Director,
CARE India, 27, Hauz Khas Village, New Delhi | Member |
| 16. Shri Mahesh Kumar,
Director, (NCEUS). | Convenor |

Annex 1.3 Contd

No. A-25022/29/2005-NCEUS
Government of India
National Commission for Enterprises in the Unorganized Sector

16th /19th Floor, Jawahar Vyapar Bhawan,
1, Tolstoy Marg, New Delhi 110001
Dated the 20th April, 2006

ORDER

Subject :Constitution of Task Force on Review of Indian Labour Laws.

It has been decided to set up a Task Force on Review of Indian Labour Laws.

The composition of the Task Force shall be as follows:

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|----|--|----------|
| 1. | Professor T.S. Papola,
Delhi Government Chair in Human Development
Institute for Human Development
NIDM Building, IIPA Campus,
IP Estatem M G Marg, New Delhi | Chairman |
| 2. | Professor K.P. Kannan,
Member, NCEUS | Member |
| 3. | Professor Ravi Shankar Srivastava,
Member, NCEUS | Member |
| 4. | Professor Navin Chandra,
Senior Fellow,
Flat No. 119, A, Sipra Sun City
Indrapuram, Ghaziabad | Member |
| 5. | Dr. Kamala Sankaran,
Research Professor
Indian Law Institute,
Bhagwandas Road, New Delhi | Member |
| 6. | Dr. Praveen Jha,
Associate Professor,
School of Social Sciences,
Jawaharlal Nehru University,
New Mehrauli Road, New Delhi | Member |

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| 7. | Dr. C.S. Venkata Ratnam,
Director,
International Management Institute,
B-10, Qutab Institutional Area,
Tara Crescent, New Delhi | Member |
| 8. | Shri Joginder Kumar,
President,
Federation of Tiny & Small Scale Industries of India (FTSSI),
General Metal Industries,
B-189, Industrial Estate, Ludhiana | Member |
| 9. | Shri Swami Agnivesh,
President,
Bonded Labour Liberation Front,
7, Jantar Mantar Road, New Delhi | Member |
| 10. | Shri B. P Pant,
Joint Director,
All India Organization of Employers (AIOE),
Federation House,
Tansen Marg, New Delhi | Member |
| 11. | Shri Anil Bhardwaj,
Secretary General,
Federation of Indian Micro and Small & Medium Enterprises (FISME),
B-4/161, Safdarjung Enclave, New Delhi- | Member |
| 12 | Shri J.D. Hajela ,
Director NCEUS | Convenor |

Annex 1.3 Contd

F. No. A-25024/4/2005-NCEUS
Government of India
National Commission for Enterprises in the Unorganized Sector

16th /19th Floor, Jawahar Vyapar Bhawan,
1 Tolstoy Marg, New Delhi 110001
Dated : 10th November ,2006

ORDER

Subject: Constitution of Technical Experts Group on Growth Pole.

It has been decided to set up a Technical Experts Group to take their inputs on Growth Pole proposals and other relevant issues.

2. The composition of the Group shall be as follows:

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|----|---|----------|
| 1. | Professor Dinesh N. Awasthi, Director,
Entrepreneurship Development Institute of India,
Near Village Bhat, via Ahmedabad Airport & Indira Bridge,
P.O. Bhat-382428, District- Gandhinagar, Gujarat. | - Member |
| 2. | Dr. Sarita Nagpal,
Confederation of Indian Industry (CII),
The Mantosh Sondhi Centre,
23, Institutional Area, Lodi Road, New Delhi | - Member |
| 3. | Shri Mukesh Gulati,
Focal Point Manager, CDP,
U.N. Industrial Development Organization House,
6 Special Institutional Areas, New Delhi | - Member |
| 4. | Development Commissioner (SSI),
Office of the Development Commissioner,
Small Scale Industries,
7th Floor, A-Wing, Nirman Bhavan, New Delhi | - Member |
| 5. | Secretary, Ministry of Commerce & Industry,
Department Of Industrial Policy & Promotion,
Udyog Bhawan, New Delhi | - Member |
| 6. | CMD,
Housing & Urban Development Corporation Ltd. (HUDCO]
HUDCO Bhawan, India Habitat Centre,
Lodhi Road, New Delhi | - Member |

Annex 1.3 Contd

F. No. A-25024/4/2005-NCEUS
Government of India
National Commission for Enterprises in the Unorganized Sector

16th /19th Floor, Jawahar Vyapar Bhawan,
1, Tolstoy Marg, New Delhi 110001
Dated the 4th February, 2008

REVISED ORDER

Subject: Constitution of Task Force on Enterprise Development in the Unorganized Sector.

In supersession of Order of even no. dated 1st October, 2007, the following changes have been made.

It has been decided to change the name as "Task Force on Enterprise Development in the Unorganized Sector" to examine the issues related to the Development of Enterprise in the Unorganized Sector and other relevant issues.

The composition of the Task Force shall be as follows:

- | | | | |
|----|---|---|----------|
| 1. | Professor K. P. Kannan
Member, NCEUS | - | Chairman |
| 2. | Professor Ravi Shankar Srivastava,
Member, NCEUS | - | Member |
| 3. | Shri V. K. Malhotra
Member Secretary, NCEUS | - | Member |
| 4. | Professor T.S. Papola,
Part Time Member, NCEUS,
Director, Labour Expert,
Institute for Studies for Industrial Development,
Narendra Niketan, I.P. Estate, New Delhi-110002 | - | Member |
| 5. | Professor Dinesh N. Awasthi,
Director, Entrepreneurship Development Institute of India,
Gandhi Nagar, Ahemdabad. | - | Member |
| 6. | Professor Rakesh Basant
Indian Institute of Management, Ahemadabad. | - | Member |
| 7. | Shri Mukesh Gulati,
Focal Point Manager, UNIDO,
New Delhi. | - | Member |

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| 8. | Professor Padmini Swaminathan,
Director, MIDS | - | Member |
| 9. | Professor Pankaj Chandra,
IIM, Vastrapur, Ahmedabad | - | Member |
| 10. | Shri DE. Ramakrishnan,
President, IFRASTE,
Paramount Gardens, no. 11,
Arunachalam Road, Saligramam, Chennai | - | Member |
| 11. | DC, MSME and / or his representative
Nirman Bhawan, New Delhi | - | Member |
| 12. | Secretary
Ministry of Commerce & Industry,
Department Of Industrial Policy & Promotion,
Udyog Bhawan, New Delhi | - | Member |
| 13. | Shri Ashutosh Mishra
Director, NCEUS | - | Convener |

Annex 1.3 Contd

F. No. A-25024/3/2008-NCEUS
Government of India
National Commission for Enterprises in the Unorganized Sector

16th Floor, Jawahar Vyapar Bhawan,
1 Tolstoy Marg,
New Delhi - 110 001.
Dated: 30th July, 2008

ORDER

Subject : Constitution of Technical Experts Group on Marginal and Small Farmers

It has been decided to set up a Technical Experts Group on Marginal and Small Farmers to take their inputs on Special Programme for Marginal and Small farmers and other related issues.

The composition of the Group shall be as follows:

- | | | | |
|----|---|---|-----------------|
| 1. | Professor Arjun Sengupta , Chairman, NCEUS | - | Chairperson |
| 2. | Professor Ravi Srivastava , Member, NCEUS | - | Member Convener |
| 3. | Professor K.P. Kannan , Member, NCEUS | - | Member |
| 4. | Shri V.K. Malhotra , Member Secretary, NCEUS | - | Member |
| 5. | Professor V.S. Vyas ,
Chairman
Institute of Development Studies,
8-B, Jhalna Institutional Area, Jaipur | - | Member |
| 6. | Professor Surjit Singh ,
Director, IDS, Jaipur
Institute of Development Studies,
8B, Jhalana Institutional Area, Jaipur | - | Member |
| 7. | Professor Alakh Narain Sharma ,
Director, Institute of Human Development,
NIDM Building, IIPA Campus,
IP Estate, M.G. Marg, New Delhi | - | Member |
| 8. | Professor D.N. Reddy , Former Dean and Professor,
Central University,
3-33-33, Venkat Reddy Colony,
Lingam Palli, Hyderabad. | - | Member |

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- | | | | |
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| 9. | Professor G. Vallabh,
Circuit House Area (East),
Jamshedpur | - | Member |
| 10. | Professor Kanchan Chopra, Director
Institute of Economic Growth,
University of Delhi Enclave,
North Campus, Delhi | - | Member |
| 11. | Dr. Mahendra Dev, Chairman, CACP,
Krishi Bhawan, Delhi | - | Member |
| 12. | Dr. P.K. Joshi, NCAP,
P. B. No. 11305, Library Avenue,
Pusa, New Delhi | - | Member |
| 13. | Secretary, Ministry of Agriculture
or his Representative. (Dr. S.M. Jharwal, Principal Advisor)
Krishi Bhawan, Delhi | - | Member |
| 14. | Secretary,
Department of Agriculture,
Govt. of Madhya Pradesh, or his Representative | - | Member |
| 15. | Secretary, Department of Agriculture,
Govt. of West Bengal, or his Representative | - | Member |
| 16. | Secretary, Department of Agriculture
Govt. of Andhra Pradesh, or his Representative | - | Member |
| 17. | Shri S.V. Ramana Murthy,
Director, NCEUS | - | Co-ordinator |

Annex 3.1: Measures of Labour Force Participation and Utilisation

J. Krishnamurthy and G. Raveendran
Senior Consultants, NCEUS

1. Introduction

There is a continuing debate in India among economists, planners and policy-makers on the best measure of labour force participation and utilization. This is despite the fact that the Committee of Experts on Unemployment Estimates, constituted by the Planning Commission in 1968 under the chairmanship of Prof. M.L. Dantwala, has clearly indicated¹ that it would not be justified to aggregate labour force, employment and unemployment into single dimensional magnitudes in view of inherent socio-economic conditions prevailing in the country.

In this paper a new set of measures of labour force, employment and unemployment has been suggested which we believe would be better suited for many purposes than those currently in use. We also propose new measures of labour time utilization and underemployment.

2. The Existing Measures of Labour Force

The Labour Force Participation Rate (LFPR), obtained by dividing the number of persons in the labour force by total population, is an important parameter in employment projections and formulation of employment strategies. The crucial issue, however, is the basis, or the decision rule, on which a person is classified as belonging to the labour force. There are four different concepts used in India in this regard. These are:

Usual Principal Status (UPS)
Usual Principal and Subsidiary Status (UPSS)
Current Weekly Status (CWS), and
Current Daily Status (CDS).

2.1 Usual Principal Status

For several purposes, we need to relate social and economic variables to the enduring characteristics of the population and labour force. The labour force, in this context, is typically measured through the usual principal

activity status (UPS) which reflects the status of an individual over a reference period of one year. Thus a person is classified as belonging to labour force, if s/he had been either working or looking for work during longer part of the 365 days preceding the survey. In case the total period of being within the labour force is equal to the total period out of it, priority is given to labour force participation. Again, for a person already identified as belonging to the labour force, s/he would be labeled as employed or unemployed depending on which category accounted for more days. In the event of a tie, employed would get priority over unemployed. However, if a person has a very complex pattern of labour force and work participation, the UPS measure cannot fully reflect it.

The UPS measure excludes from the labour force all those who are employed and/or unemployed for a total of less than six months. Thus persons who work intermittently, either because of the pattern of work in the household farm or enterprise or due to economic compulsions and other reasons, would not be included in the labour force unless their days at work and unemployment totalled over half the reference year.

2.2 Usual Principal and Subsidiary Status

The Usual Principal and Subsidiary Status (UPSS) concept was introduced to widen the UPS concept to include even those who were outside the labour force on the basis of the majority time criterion but had been employed during some part of the year on a usual basis. In the NSS 61st Round Survey, all those who were either un-employed or out of labour force but had worked for at least 30 days over the reference year were treated as subsidiary status workers. UPSS is thus a hybrid concept incorporating both the major time criterion and priority to work status.

The UPSS measure was used on the ground that it was stable and inclusive: it related to a picture emerging from

¹ The Report of the Committee of Experts on Unemployment Estimates submitted to the Planning Commission in 1970 states that "In our complex economy, the character of the labour force, employment and unemployment, is too heterogeneous to justify aggregation into single-dimensional magnitudes".

a long reference period, and even persons working for 30 days or more, but not working for the major part of the year, were included. However, those outside the UPS labour force, seeking or available for work for more than 30 days during the preceding 365 days, were not included in the UPSS labour force.²

By including as workers those outside the UPS labour force but had worked for 30 days or more, the UPSS estimates of work participation (which included some of the UPS unemployed and outside the labour force) exceeded the corresponding UPS estimates. However, the number of unemployed got reduced and their share in the expanded UPSS labour force became much lower.

It is important to stress the difference between the UPS and UPSS measures as the latter has been used for employment projections in all the recent Plan exercises except the Tenth Plan document. The basic differences between UPS and UPSS measurements are the following:

- The enduring characteristic sought to be captured in UPS is how the person spends the major part of the year. The UPSS, on the other hand, seeks to place as many persons as possible under the category of employed by assigning priority to work
- While the notion of long term attachment to particular activity status may be a valid generalization, there may be a considerable number of persons for whom no single long-term activity status is applicable as they move between statuses over a long period of one year depending on a variety of factors, including cyclical patterns and random events. This possibility is eliminated from our purview when a statistical straight-jacket like UPS or UPSS is applied and a person has to select one and only one status (employed, unemployed, out of the labour force) as her/his enduring status.
- Usual status requires a recall over a whole year of what the person did. For those in regular employment this is easy to do, but for those

who take whatever work opportunities they can find over the year or have prolonged spells out of the labour force, a very complex pattern has to be recalled in order to decide what their usual status is. In this respect, a short reference period of a week has advantages.

2.3 Current Weekly Status

The concept of Current Weekly Status (CWS) has been in use in the labour force surveys in India even before 1970, when the recommendations of the Dantwala Committee became available. It was primarily because the agencies like International Labour Organization (ILO) use estimates of employment and unemployment rates based on weekly reference period for international comparisons. Under CWS, a person is classified to be in labour force, if s/he has either worked or is seeking and/or available for work at least one hour during the reference period of one week preceding the date of survey.

The CWS participation rates also relate to persons and hence may be roughly compared with those obtained by using UPS and UPSS measurements. However, the reference periods are different and UPS, unlike UPSS and CWS, is based on majority time and does not accord priority to work and unemployment. The classification under CWS is based on the status of each person during the last seven days and priority is assigned to “working” over “not working but seeking or available for work” and to both “working” and “not working but seeking or available for work” over “neither working nor available for work”. The advantage of CWS is that it uses a shorter reference period of seven days and as such recall lapses are expected to be comparatively lower. Further, it facilitates easy classification and analysis by sub-rounds to identify seasonal patterns. The major disadvantage of CWS is that it classifies persons with very nominal work of even one hour during the reference week into work force and labour force. Similarly, a person is treated as unemployed only if s/he has been unemployed on all the days on which s/he has been in the labour force.

² The 30 day rule was introduced in the 61st Round. In earlier Rounds, no such minimum cut off point was prescribed. For strict consistency, all those who were outside the labour force on the basis of principal status, but who were in the labour force on the basis of their subsidiary status, should have been included in the UPSS labour force. If the 30 day cut-off rule was applied it should have related to labour force participation, not only to work participation.

2.4 Current Daily Status

The Dantwala Committee proposed the use of Current Daily Status (CDS) rates for studying intensity of work. These are computed on the basis of the information on employment and unemployment recorded for the 14 half days of the reference week. The employment statuses during the seven days are recorded in terms of half or full intensities. An hour or more but less than four hours is taken as half intensity and four hours or more is taken as full intensity.

An advantage of this approach was that it was based on more complete information; it embodied the time utilisation, and did not accord priority to labour force over outside the labour force or work over unemployment, except in marginal cases. A disadvantage was that it related to person-days, not persons. Hence it had to be used with some caution.

3. Labour Force Measures Used in Recent Plan Exercises

The Task Force on Employment Opportunities set up by the Planning Commission and chaired by Dr Montek Singh Ahluwalia, which reported in July 2001, examined estimates of employment and unemployment generated by the National Sample Survey, based on different concepts developed by the Dantwala Committee. All four measures, UPS, UPSS, CWS and CDS were reviewed and estimates based on all four measures featured in the analysis. It was stated that:

the CDS measure of unemployment is widely agreed to be the one that most fully captures open unemployment in the country.³

The projections of the labour force were, however, based on the UPSS concept, perhaps because it related to persons rather than person-day units.

The Planning Commission's Special Group on Targeting Ten Million Employment Opportunities Per Year over

the Tenth Plan Period, chaired by Dr S P Gupta, which reported in May 2002, took a different view. It argued that:

the method of estimation of employment and unemployment on the basis of the usual and subsidiary status (UPSS) used during the Ninth Plan formulation would not be of help to get any realistic estimate of the quantum of generating gainful employment in order to fulfill the Tenth Plan targets, especially given the promise for gainful nature of employment, as per the Group's terms of reference. This is because on the basis of UPSS calculation, the volume of unemployment shown is always under-estimated since it excludes a large number who are significantly under-employed or unemployed over a major part of the referred period.⁴

It was therefore decided to switch over to the CDS. The rationale was as follows:

Hence, we switched over to what is called the Current Daily Status (CDS), which is conveniently one of the other options provided by the National Sample Survey Organisation for measurement of employment and unemployment. If the gainfully employed are defined as those who are near fulltime employed, then the CDS definition on employment given by the NSSO will give more realistic estimate at least directionally. Most countries across the globe use the concept close to weekly status, which again is closer to that of CDS used in this report. Within India almost all other reports from alternate sources agree that the CDS concept of unemployment is the most realistic.⁵

This approach was later adopted in the Tenth Plan (2002-2007) document for projecting labour force and employment generation. It was justified on the ground that (a) CDS was a better measure than the UPSS to capture unemployment and under-employment and (b) it took into account seasonal variations as the samples

³ See Government of India, Planning Commission: Report of the Task Force on Employment Opportunities, New Delhi, July 2001, pp. 14-15.

⁴ See Government of India, Planning Commission: Report of the Special Group on Targeting Ten Million Employment Opportunities Per Year over the Tenth Plan Period, New Delhi, July 2002, p. 12.

⁵ Ibid, p.21.

were surveyed uniformly over the year. A review of these developments brings out the following points.

First, the Special Group is right in stressing that the gainfully employed should be those who have a strong involvement in employment, i.e. that they should be “near fulltime employed.” It does not follow, however, as the Special Group claims, that the CDS definition on employment will give a more realistic estimate at least directionally, for it cannot yield an estimate of *persons* gainfully employed. Under CDS, the basic classificatory unit is a person-day and the status of the same person on all the seven days is recorded. It thus relates to a composite unit of person-day and not to persons or individuals. Aggregates of person-days cannot be readily related to characteristics of individuals who contribute to it.

Secondly, the UPSS-based projections may be questioned for using a concept that overstates employment and understates unemployment. Many persons included as workers under UPSS are not really gainfully employed for much of the time.

Thirdly, the argument of the Task Force that “the difference between the unemployment rates on the Current Weekly and that on the Usual Status would provide one measure of seasonal unemployment” is difficult to sustain. The two unemployment rates are based on different labour force denominators, and many reported as working on UPSS may be outside the labour force on CWS. Seasonality in labour force characteristics is better captured by variations in CDS rates over the four sub-rounds.

4. Requirements of a Good Measure

From the preceding discussion we may attempt to highlight some of the requirements of a good measure.

- A good employment/unemployment measure should be able to depict the baseline situation in a realistic and consistent manner, identifying those individuals who have a substantial attachment to the labour force and who spend a good part of their time at work or in unemployment.
- In our predominantly rural, agrarian economy, it should enable us to identify patterns of seasonal change over the different parts of the year.

- It should provide a basis for projecting the growth of labour force, employment and unemployment over time and facilitate comparisons with expected employment generation in the economy.

5. Modified Current Weekly Status (MCWS)

In both UPSS and CWS, the priority criterion results in overestimation of the labour force and work force. It is essentially because persons who normally remain outside the labour force (work force) most of the time would get included in the labour force (work force) if they spent just above 30 days in a year (UPSS) or one hour in a week (CWS) in an economic activity like gathering of uncultivated crops, collection of firewood, cleaning of household enterprise premises, etc. The UPSS and CWS as currently used, therefore, have only limited value in estimating trends in employment and unemployment and projecting labour force. This paper proposes a modified CWS (hereafter MCWS) based on major time criterion. This approach had been used many years ago by Prof. Pravin Visaria in an exercise involving re-tabulation of NSS data for some States.

Unlike CWS, the MCWS takes better account of the time disposition of each individual over the 14 half days. It follows a two step procedure. *First*, it assigns individuals to the labour force if the majority of their half-days were in the labour force. *Second*, within the labour force, it uses the majority time principle to classify individuals among the two activity statuses, employed and unemployed. Only in a few cases, where the majority time rule does not give a unique solution, is the criterion of priority for labour force and employment invoked.

Under MCWS, each surveyed individual is uniquely classified as within or outside the labour force, and again as employed or unemployed by consistently applying the majority time principle to the time disposition information relating to all the 14 half-days of the week. The labour force estimates based on MCWS includes only those who were in the labour force during major part of the week. A member of the MCWS labour force would have been working or unemployed or a combination of both *for at least 3.5 days in the reference week.*

In contrast to the CWS, under MCWS a person will not be classified as worker, if that person has worked

only for half-a-day during the reference week. Any person classified as a member of the MCWS labour force can be further classified as a worker only if s/he has worked for at least two days in the reference week. This may be established in the following way. Consider individual, A, who has spent the minimum qualifying period of 3.5 days in the labour force.

- If A spent 2 or more days at work, this would be the majority of her/his labour force days and s/he would be classified as a worker.
- If A spent less than 2 days at work i.e. 1.5 days or less, A must have been unemployed for 2 days or more out of her/his 3.5 days in the labour force. A would then be classified as unemployed.

To generalize, if the number of days of any person in the labour force is 3.5 or more, the majority rule would ensure that if the person was classified as a worker s/he would have worked for 2 or more days and if the person was classified as unemployed, s/he would have been unemployed for 2 or more days.

In the above classification, we follow the analogy of the usual principal status and *first* classify according to whether or not in the labour force on the basis of majority time, and *then* apply the same majority time criterion to decide whether the person is employed or unemployed. This MCWS procedure has a definite advantage over the CWS as any person classified as employed (or unemployed) would have recorded a significant involvement (at least 2 days) in that activity and at least 3.5 days in the labour force. The concept thus enables us to focus on persons with a significant involvement in the labour force and in work or unemployment.

6. Comparison of Rates from the Different Measures

In this Section we examine labour force and unemployment rates derived from unit level data sets by different measures in use and compare them with rates obtained using the MCWS. Before making the comparison, it is important to note that the rates are obtained on very different bases. The UPS and UPSS relate to usual status with a reference period of one year, while the other rates relate to current status, relating to the reference week. The UPS, and MCWS embody the

majority time criterion, while the UPSS and CWS embody the priority criterion, assigning priority to work over unemployment and unemployment over being outside the labour force. Unlike UPS, UPSS, CWS and MCWS which relate to persons, the CDS relates to person-days. The CWS and the MCWS apply two different principles, priority and majority time respectively, to the same set of labour-time disposition particulars.

Since different reports have used one or other of the earlier measures, it is useful to look at these results in relation to MCWS. One must not forget that the bases for the different measures differ greatly and the reasons for these differences are complex. The labour force participation rates estimated by using the different measures listed above on the data sets relating to NSS 50th, 55th and 61st Round Surveys on Employment – Unemployment are given in Table 1 and the corresponding worker participation and unemployment rates are given in Tables 2 and 3 respectively.

6.1 Labour force participation rates

Considering the labour force participation rates reported in Table 1, all have a common denominator, viz. the population, although the CDS uses a variant, viz. total person days. The following generalizations may be made:

Usual status

$$\text{UPSS} > \text{UPS} \quad (\text{i})$$

This is obvious since UPSS adds to the labour force those outside the UPS labour force with subsidiary work.

Current status

$$\text{CWS} > \text{MCWS} \quad (\text{ii})$$

CWS results in a higher labour participation rate than MCWS. This is due to the inclusion in CWS of some persons who were not in the labour force for the majority of the week.

$$\text{CWS} > \text{CDS} \quad (\text{iii})$$

The CWS labour force participation rates are higher than the CDS as the half-days outside the labour force of persons in the CWS labour force are ignored under CWS but included in CDS.

The relation between MCWS and CDS labour force participation rates cannot be predicted. The MCWS rate could exceed the CDS since it ignores half-days of outside the labour force reported by persons in the MCWS labour force; on the other hand, CDS could exceed MCWS as it includes half-days in the labour force of persons outside the MCWS labour force. Hence, the relation between MCWS and CDS depends on the relative magnitudes of these two factors.

Looking at Table 1, we find that for all India for 1993-94, 1999-2000 and 2004-05, for all segments (i.e. rural males, rural females, urban males and urban females) labour force participation rates under UPSS are consistently higher than under UPS. Again, CWS rates are higher than MCWS rates which, in turn are higher than CDS rates.

6.2 Work participation rates

The work participation rates estimated by using different concepts are given in Table 2.

Usual status

UPSS>UPS (iv)

As one would expect, WPRs are higher under UPSS as compared to UPS as the former includes subsidiary work.

Current status

CWS>MCWS (v)

As in the case of labour force participation rates, the CWS work participation rates, based on priority for employment, are consistently higher than MCWS rates, based on majority time.

CWS>CDS (vi)

The CWS rates are higher than those under CDS, as persons with minimal days of employed would be classified as employed under CWS and no account would be taken of their unemployed days.

The relation between MCWS and CDS WPRs is, in theory, unclear. The MCWS, in its estimation, ignores the non-work time of MCWS workers. Against this, the work time of MCWS non-workers is also ignored

by MCWS. In practice, it would appear that the former factor outweighs the latter, and MCWS WPRs generally exceed CDS WPRs.

As Table 2 shows, for all persons in 2004-05, the UPSS based WPR is the highest at 420 per thousand of population and the CDS based WPR is the lowest at 350. The UPS and CWS based WPRs are 380 and 389 respectively, while that based on MCWS is 368.

6.3 Unemployment rates

Turning to comparisons of unemployment rates (which are proportions to the labour force) it is important to note that, unlike the labour force participation rates which are proportions of the population, differences in unemployment rates could be due to the numerator and/or the denominator.

Usual status

UPS> UPSS (vii)

Under UPSS, the priority for work over unemployment results in unemployment being smaller than in UPS. Further, the UPSS labour force is larger than the UPS labour force as some persons outside the UPS labour force are included in the UPSS labour force. Hence, the UPS unemployment rate, with a larger numerator and a smaller denominator, will be higher than the corresponding UPSS rate.

Current status

MCWS>CWS (viii)

MCWS unemployed would be greater than the corresponding number for CWS as persons in the MCWS labour force who were unemployed for the major part of the week, but had also done some work, would be classified as unemployed; but such persons would have been included among the employed under CWS. The labour force, as we have seen in (ii) above, would be larger under CWS. Hence, with a larger numerator and a smaller denominator the MCWS unemployment rate would be higher compared to the CWS rate.

CWS<CDS (ix)

As CWS, unlike CDS, assigns priority to employment over unemployment a smaller number of unemployed would be obtained under CWS than under CDS. We already know that CWS would result in a larger labour force than CDS. Hence the unemployment rate under CDS (with more unemployed and less in the labour force) would be more than under CWS.

MCWS unemployment would be larger than CWS unemployment, since the former is based on majority time and does not assign priority to work over unemployment. But, as we have already shown, labour force participation rates under MCWS may be higher, equal or less than the corresponding CDS rates. Hence no conclusion may be drawn on comparing MCWS and CDS unemployment rates.

Looking at Table 2, we find that CDS rates are the highest, followed in descending order by MCWS, CWS, UPS, and UPSS. In the case of urban females, UPS and CWS rates are rather close and in 2004-05, it appears that the UPS rates slightly exceeded the CWS rate. However, in the preceding discussion we made no predictions regarding the relationship between usual and current status rates as their bases are very different.

7. Advantages of the MCWS Approach to Labour Force Measurement

The MCWS participation and unemployment rates, which relate to persons by majority time, are better aggregates of current daily status information. They are based on the actual status of the person during the last seven days and not based on a long recall memory of the informant as in the case of UPS and UPSS. They do not classify a person into one of the categories of employed, unemployed and out of labour force on an a priori basis but do so only after ascertaining the daily status on each of the last seven days. Thus the classification errors are significantly reduced. The unemployment rates estimated by using MCWS are a better reflection of the situation than those based on CWS as the former is on the basis of major time disposition within the labour force.

Since MCWS estimates relate to persons, they can be used to project the size and composition of the labour force. They can also be used to examine labour force

characteristics, using cross classifications based on individual and household characteristics.

While the different approaches and the resulting estimates are useful in illuminating different characteristics of labour force participation and utilization, we believe that the analysis should be built around the MCWS estimates, drawing in, as required, results based on the other approaches and estimates. This would provide the best use of the available detailed information for policy analysis including planning exercises.

In a sense the time disposition module of the NSSO makes it possible to apply a host of alternative definitions of labour force, employment and unemployment resulting in a family of estimates. The task of the analyst is to select those among these estimates that are best suited to specific purposes. We illustrate this point in the next section by considering, in more detail, different ways of identifying and measuring underemployment and unemployment.

8. Impact of Use of Different Concepts in the Classification of Persons

In this section we examine how the use of different concepts impact on the classification of persons into labour force and work force. Since the first basic classification is that of labour force, the analysis mainly focuses on the same, though it can be repeated for work force classification. The two basic parameters which differ between different concepts and contribute to variation in the classification are: (i) the reference period and (ii) the classification rule. The specific parameters in use in each of the concepts are summarised in the Statement 1.

As stated earlier, the UPS concept is based on a notion of stable attachment to labour force which is one of the desirable characteristics of a good measure. A long reference period of 365 days and major time criterion are therefore, used for determining the status of a person under the UPS concept. It, however, needs to be investigated whether the use of a long reference period is capable of discriminating long term stable labour force attachment from casual and | or intermittent attachments. It is done by comparing the profiles of persons identified to be in labour force as per UPS but not as per CWS as

Statement 1: Parameters for Labour Force Classification

Sl. No	Concept	Reference Period	Classification Rule
1.	UPS	Last 365 days	Major time criterion
2.	UPSS	Last 365 days	Major time criterion and priority criterion with a minimum threshold of 30 days in work
3.	CWS	Last 7 days	Priority criterion with a minimum threshold of one hour in labour force
4.	MCWS	Last 7 days	Major time criterion
5.	CDS	Each day of the last week	Persons are not classified but mandays are classified

well as those identified to be in labour force as per CWS but not as per UPS. The discriminatory power of MCWS in identifying stable labour force attachments is thus analysed by comparing the profiles of those included in CWS labour force but not in MCWS labour force.

8.1 Comparison Between UPS and CWS

The estimated UPS labour force as per Seventh Quinquennial Employment-Unemployment Survey conducted during 2004-05 was 428.29 million. In comparison, the estimated labour force as per CWS concept was 444.76 million. The cross classification of population by UPS and CWS concepts is given in Statement 2.

The above statement indicates that the classification is essentially the same both by UPS and CWS in 96.3 per cent of the cases. Of the remaining 3.7 per cent, 11.86 million persons (1.1%) are in labour force as per UPS

concept though not as per CWS concept. On the other hand 28.33 million persons (2.6%) are in labour force as per CWS concept but not as per UPS concept.

By including the subsidiary status workers also in the labour force, the variations in classification get reduced to 2.6 per cent of the cases. However, percentage of persons who are in labour force as per UPSS but not as per CWS increases to 2.4 per cent while the percentage of persons in labour force as per CWS concept but not as per UPSS get reduced to just 0.2 per cent. It implies that about 2.4 per cent of persons in the CWS labour force get classified into UPSS labour force due to subsidiary status work. The details are given in Statement 3.

We may now examine the profile of the 28.33 million persons who get classified into labour force as per CWS but not as per UPS. The percentage distribution of these persons by CWS and UPS activity statuses is given in Table 4. It indicates that about 57.0 per cent of the

Statement 2: Distribution of Persons by UPS and CWS Concepts (in million)

CWS	UPS		
	In Labour Force	Out of Labour Force	Total
In Labour Force	416.43 (38.2)	28.33 (2.6)	444.76 (40.8)
Out of Labour Force	11.86 (1.1)	632.99 (58.1)	644.85 (59.2)
Total	428.29 (60.7)	661.32 (100.0)	1089.61

Figures in brackets indicate percentage shares.

Source: NSSO 61st Round Survey on Employment-Unemployment. Computed.

Statement 3: Distribution of Persons by UPSS and CWS Concepts (in million)

CWS	UPSS		
	In Labour Force	Out of Labour Force	Total
In Labour Force	442.84 (40.6)	1.92 (0.2)	444.76 (40.8)
Out of Labour Force	25.79 (2.4)	619.06 (56.8)	644.85 (59.2)
Total	468.63 (43.0)	620.98 (57.0)	1089.61 (100.0)

Figures in brackets indicate percentage shares.

Source: ibid

persons classified are unpaid family workers, 26.2 per cent are self-employed own account workers and 10.4 per cent are casual workers as per CWS. These three categories taken together account for 93.6 per cent. Of the remaining, 3.3 per cent are unemployed, 1.9 per cent are regular salaried and the rest are either those who did not work during the week due to illness or other reason or self-employed employers. By usual status, about 59.7 per cent of them were classified as those attending domestic duties and also engaged in free collection of goods, 27.2 per cent as those attending domestic duties only and 10.5 per cent as those attending educational institutions. These three categories taken together account for about 97.4 per cent of the persons classified. It is thus clear that most of those classified as unpaid family workers, self-employed own account workers and casual workers as per CWS were classified as those attending domestic duties with or without free collection of goods and attending educational institutions as per UPS. It will be difficult to assume that all these persons are without any stable attachment to labour force. The problem is primarily because of a priori classification of persons under UPS based on the perceptions of time utilisation of individual members of households over a period of last 365 days. In the case of persons with multiple roles, there is always a tendency to report only the status which is traditionally recognised as more important in the household hierarchy. It is also not feasible for the field investigators to physically record all the activities of each person in the surveyed households over a period of 365 days and then decide the exact classification. The point becomes more clear, if we look at the rural-urban and male-female break-up of the group. The distribution of these persons by area, gender and weekly status is given in Table 5.

Table 5 is quite revealing. About 90 per cent of those classified into labour force by CWS but not by UPS are females and among them 78 per cent are in rural areas. Of the remaining ten per cent of males also about 8 per cent are in rural areas. Thus the use of UPS concept in the measurement of labour force excludes a significant share of persons in rural areas, particularly women.

Among the 90 per cent strong female labour force, about 72.6 per cent are engaged in agriculture with a break-up

of 69.2 per cent in rural areas and 3.4 per cent in urban areas. The remaining 17.4 per cent of the women in labour force are distributed among manufacture of textiles (3.5), manufacture of wearing apparel (2.5 %), retail trade (2.2 %), manufacture of tobacco products (2.1 %), education (1.1 %) and others (6.0 %). Among the ten per cent men also 5.9 per cent are in agriculture, 0.9 per cent in retail trade, 0.5 per cent in education and the remaining 2.7 per cent in all other industries.

About 41 per cent of the women among female labour force are farmers engaged in livestock, poultry, fruit cultivation, etc. Another 23 per cent of them are cultivators of crops and vegetables and 7.4 per cent are agricultural labourers. The other major occupations in which the women in CWS work force but not in UPS work force are engaged are (i) tailoring and dress making (4.9 %), (ii) tobacco preparation and making (2.2 %), (iii) sales workers (1.5 %), (iv) teaching (1.2%) and (v) the rest others (16.2 %).

The above analysis brings out clearly that the persons not included in the labour force as per UPS concept, but captured by the CWS concept are not those having weak attachment to labour force. The concept of subsidiary status bring almost all of them into labour force along with others who do not have such stable attachments with labour force.

We may also examine the profiles of 11.85 million persons in the labour force as per UPS concept but not as per CWS concept. The percentage distribution of these persons by UPS and CWS statuses are given in Table 6. As per UPS, about 43.9 per cent of them were casual workers, 33.7 per cent unpaid family workers, 13.1 per cent self-employed own account workers and 6.1 per cent unemployed. About 16.4 per cent of those classified as casual workers by UPS were classified under CWS as those attending domestic duties, 9.9 per cent as those attending domestic duties along with free collection of goods, 11 per cent as those who did not work due to temporary sickness and 5.8 per cent as 'others' consisting of too young, too old and those not engaged in any specific activity. In other words, these persons neither did work nor did seek work during the entire seven days of reference week. The person who is really a casual worker as per UPS cannot afford to remain idle for seven days even

without looking for a job. Similarly, those classified as unpaid family worker and self-employed own account worker as per UPS also cannot remain outside labour force for a full week. Among all those included in the labour force under UPS, 15.4 per cent were classified under 'others' and about three-fourth of them were males. It indicates that the classification these persons in work and labour force as per UPS is largely due to 'stylish' responses of the informants to summarise their activity status over the last one year rather than based on a realistic assessment of the duration in different activities. It also indicates that the persons involved did not have a stable labour force attachment.

Again, 91 per cent of the persons classified to be in labour force as per UPS but not as per CWS are in rural areas and 67 per cent of them were females. Out of the remaining 9 per cent in urban areas, 5 per cent were females. In total, 72 per cent were females and 28 per cent were males. About 83.8 per cent of them were engaged in agriculture, 5.3 per cent in construction and 1.9 per cent in retail trade as per UPS. In terms of occupation 43.8 per cent were cultivators of crop, 37.6 per cent were farmers engaged in livestock, poultry, etc and 3 per cent were in construction work. In case these persons had long term attachment to labour force, they should not have been classified as those engaged in domestic duties, attending educational institution, etc., on the basis of their activity. It re-confirms the point that persons with intermittent/non-regular attachment can also get classified into labour force by UPS due to 'stylish' responses.

The above analysis based on 61st Round Employment Un-employment survey data makes it clear that UPS concept can fail in identifying those having stable attachment to labour force, particularly in the case of rural women. It can also wrongly classify, though to a lesser extent, those not having stable attachment to labour force. In the case of CWS on the other hand, the classification is done after recording the actual activity status of each person over a period of seven days and as such the responded biases are eliminated. The weakness of CWS, however, is the priority criteria under which even persons with one hour of 'seeking work' in the reference week will be classified into 'labour force'. The

MCWS measure is to remove this weakness by introducing the major time criterion.

8.2 Comparison Between CWS and MCWS

As mentioned earlier, the application of major time criterion instead of priority criterion in the activity status records of each person over a period of seven days provides MCWS based classification of labour force. In other words, MCWS labour force is invariably a sub-set of CWS labour force. The estimated MCWS labour force in 2004-05 was 431.6 million as compared to the estimated CWS labour force of 444.76 million. Thus about 3 per cent of the CWS labour force got excluded from the MCWS labour force. By analysing the profiles of the persons who gets excluded on the application of major time criterion, it can be seen that the group generally consists of those having marginal or weak attachment to labour force. The distribution of persons in the CWS labour force by days of attachment is given in Table 7. It may be seen that about 98 per cent of those in the labour force for less than half the week were working on all the days. It implies that they were generally not in the labour force on the days on which they were not working. Thus their labour force attachment is intermittent and | or unstable.

The group of persons with labour force days upto 3 days in a week according to CWS concept consists of about 13.15 million. The percentage distribution of these persons by sector and gender is given in Table 9. About 87.5 per cent are in rural areas and the rest 12.5 per cent in urban areas. Both in rural and urban areas females dominated. In the aggregate 27.6 per cent of them were males and the remaining 72.4 per cent were females consisting of 43.8 per cent illiterates, 6.7 per cent literates but below primary and another 8.9 per cent with primary level education. By weekly activity status, 41.6 per cent of them were unpaid family workers, 35.4 per cent casual workers and 20.2 per cent self-employed own account workers. Females dominated in each group with 34.8 per cent females in unpaid family workers, 23.4 per cent in casual workers and 12.3 per cent in self-employed own account workers.

It is thus evident that, in general, women in rural areas who do not have a stable attachment get rightly excluded

from the CWS labour force if major time criterion is applied.

9. Measures of Non-utilization of Labour Time

Examination of the time disposition of persons over the reference week indicates that for many individuals time is divided between employment, unemployment and being outside the labour force. There are several useful ways in which this information could be summarized.

9.1 Severe Unemployment

We could identify as "severely unemployed" (SUE) persons reporting unemployment for 3.5 days or more, i.e. half or more days of the week. Whatever they may have done for the rest of the week, these are people who have been in the labour market and have clearly not done well. Their characteristics warrant further analysis. The SUE group is not identical to the MCWS unemployed, but a slightly different sub-set of the MCWS labour force. This is because persons who worked 3.5 days and were unemployed on 3.5 days would be classified as MCWS workers, but, for our present purpose, they would be classified as SUE, i.e. unemployed on 3.5 days. Further MCWS unemployed would also include those unemployed for major part of their labour force days though less than 3.5 days. To obtain incidence rates, the number of persons unemployed for 3.5 or more days could be divided by either the number in the CWS or in the MCWS labour force, as SUE persons would be members of the labour force under both concepts.

In Table 9 we present the estimated number of persons with severe unemployment, i.e. those who report 3.5 or more days of unemployment in the week. We also look at rates of severe unemployment in relation to the MCWS labour force. Severe unemployment rates appear to have been rising over the period from 1993-94 to 2004-05. For all persons, the rate rises from 5.14% to 6.66%, the absolute number increasing from 18.4 to 28.6 million over the period. Roughly two-thirds are male and about 70% are in rural areas.

9.2 Part-time Workers

A completely different approach would be to identify persons who worked for 0.5 to 3 days in the week. These

are part-time workers (PTWs): they may be interested in additional work or they may not; some may report availability on non-working days while others may not. Also some may not report availability as they have been discouraged by their past labour market experiences. The incidence of part-time work is best measured in relation to the CWS work force, for not all part-time workers would be categorized as workers under the MCWS approach, but all of them would be included in the CWS work force, given its priority for work.

As Table 10 shows, persons working 0.5 to 3 days during the week account for a significant part of the CWS work force. In 2004-05, PTWs accounted for 5.34% of the total CWS work force. The percentages are higher for rural areas and among females. Among rural females, for instance, around 10.4% of the CWS work force comprised of PTWs. Between the 50th Round (1993-94) and the 61st Round (2004-05), PTWs to have increased both in absolute and in relative terms.

It might be argued that only those PTWs who express an interest in undertaking additional work should be considered when formulating employment policies. In practice, some may report non-availability for additional work on account of discouragement resulting from past efforts to find work or due to the weak link with the labour market, especially among non-wage earners. Hence, estimates of the size and characteristics of PTWs should be analyzed irrespective of their declared intentions regarding availability for additional work.

9.3 Underemployment

In the past, persons employed but interested in additional work were described as underemployed. Before 1972-73, the NSS results provided current status data on hours worked and hours available. It was possible to identify those who worked for a relatively short time (typically 28 hours or less per week) and were seeking and/or available for work. The latter were described as underemployed and this practice continues in several other Asian countries. This approach is, however, no longer feasible in India as time use is now done on a person-day basis, in terms of half days rather than clock time.

To estimate underemployment, we therefore propose a new measure. We take the ratio to the workforce of those who have worked for 3 days or less but more than 0.5 days in the week and who were unemployed for 0.5 days or more as per CWS. This will have the effect of excluding those who did not report any availability for additional work. The measure of underemployment used here is similar to the earlier measure based on the number of persons working 28 hours or less and available for additional work.

As Table 11 shows, the rate of underemployment for all persons rises from 1.65% of the CWS work force in 1993-94 to 2.26% in 2004-05. With the exception of urban females, the rates appear to be increasing over time for the other segments of the work force. While these results may reflect increasing underemployment, it may also capture the process of growing labour market orientation over time, whereby more and more PTWs report time outside the work force as being unemployment rather than outside the labour force.

9.4 Under-employment by Level of Earning

The frame work given by the 'Committee of Experts on Unemployment Estimates' under the Chairmanship of Prof. M.L. Dantwala for the measurement of labour force, work force and unemployment is purely based on time utilisation although the participation of any person in the labour force / work force is guided by the level of earning. In other words, the labour force participation rate without specifying the level of wages/earnings is only of limited value. This is one of the major short comings of the above frame work and labour statistics in the country.

The Employment-unemployment surveys being conducted by the National Sample Survey Organisation (NSSO) do collect wage and salary earnings received or receivable for the work done during the reference week for those employed on regular or casual basis. These are collected separately for each of the activities pursued by each of the person in the sample households. Bonus received or to be received and perquisites evaluated at retail prices duly apportioned for the reference week are included in the salary / wages but overtime allowance received or receivable is excluded. The average earning

per day for each worker can be estimated from these data sets in the case of employees.

The underemployment by level of earning can be therefore computed in the case of employee by comparing their daily wages with a minimum wage or standard which is expected or required for sustenance. An exercise in this regard has been undertaken by using the data sets of the latest Quinquennial Employment-Unemployment Survey. The percentage of workers receiving an average daily salary / wage of less than the national minimum wage of Rs. 66 per day has been computed both for casual workers and regular / salaried by using the data. The results are given in Table 12. It reveals that about 80 per cent of the casual workers and 31 per cent of the regular salaried / wage workers are under-employed in the sense that they do not receive the minimum daily wage of Rs. 66. The differentials between rural and urban areas and between the males and females are significantly large. In the case of casual workers, those not receiving the minimum daily wage of Rs. 66 in rural areas was 84.4 per cent as against 57.2 per cent in the case of urban areas in 2004-05. Similarly, the percentage of females receiving less than the minimum was 95.0 per cent as against 74.0 per cent in the case of males. The trend is similar even in the case of regular salaried / wage employed. While the under-employment ratio for rural and urban areas were 41.8 per cent and 25.4 per cent, the same in respect of males and females were 26.2 per cent and 53.7 per cent respectively.

In the case of self-employed including unpaid family workers, data on earnings / income are not being collected in the employment - unemployment surveys. This is a serious data gap on labour and employment which are important macro-economic variables and the national statistical system needs to be revamped to bridge this gap in line with the international conventions on labour statistics. In fact, the consumer expenditure block in the employment - unemployment survey schedule can be slightly expanded to collect income from self - employment and other sources.

In the 61st Round Survey on Employment - Unemployment, specific questions were asked about perceptions of remunerative income to all the self-

employed persons including unpaid family workers as per usual principal or subsidiary statuses. The questions asked were the following:

- (i) Do you regard the current earning from self-employment as remunerative, and
- (ii) What amount per month would you regard as remunerative?

For the purpose of classification, the earning from self-employment was considered as remunerative, if the total earnings from self-employment were able to meet the desired level of income of the individual under the existing situation in respect of type of activity, scale of operation of the business, market condition, location of the business, etc. If the actual earnings from self-employment fell short of the desired level, the employment was regarded as non-remunerative. In the case of partnerships if the owners of the enterprises were from the same household, earning was judged by considering equal distribution of income among all the owners including the helpers irrespective of the shares held by the individual members. If the owners were from different households, earning from the partnership business was distributed first according to the agreement among the partner households. Then, the share of each household was to be distributed among its owners including the helpers equally. The perception about remunerative income is assessed on the basis of individual share of such income.

A monthly income upto Rs. 1000 was reported to be remunerative by 16.3 per cent of the self-employed, while 17.9 per cent reported as income between Rs. 1001 and 1500 as remunerative and another 15.3 per cent between Rs. 1501 and 2000. The minimum daily wage of Rs. 66

is equivalent to a monthly income of about Rs. 2000. Thus, even the perceptions of remunerative income were lower than the national minimum daily wage of Rs. 66 in the case of 49.4 per cent of the self-employed. The percentage of self-employed persons under-employed based on their perception of remunerative income itself thus constituted about 49.4 per cent.

10. Conclusion

The principal aim of this paper is to suggest new ways of analyzing labour force data. An important principle adopted is to retain the identity of the individual in the analysis as other characteristics of the individual can then be related to her/his labour force behaviour. The use of the majority time current weekly status measure is recommended as it fulfils this requirement, and implies a more substantial degree of involvement in the labour force and, within the labour force, in employment or unemployment. This measure should be used also for labour force projections, instead of the UPSS and CDS measures presently in use.

Three types of underutilization of labour time are identified for use in analysis and policy. All relate to persons. These are the **severely unemployed**, persons who are unemployed for 3.5 days or more in the week; the **part-time workers**, persons who work 0.5 to 3 days in the week, and the **underemployed**, persons who are part-time workers reporting 0.5 or more days of unemployment. While the employment needs of these three groups of persons are likely to be different, we need to look at their other characteristics before formulating policy responses. This lies outside the scope of the present paper.

Table.1: Labour Force Participation Rates under Different Concepts

Category	Year	Per Thousand Participation Rates				
		UPS	UPSS	CWS	MCWS	CDS
Rural Males	1993-94	549	561	547	539	534
	1999-00	533	540	531	522	515
	2004-05	546	555	545	537	531
Rural Females	1993-94	237	330	276	254	232
	1999-00	235	302	263	240	220
	2004-05	249	333	287	265	237
Rural Persons	1993-94	398	449	415	401	387
	1999-00	387	423	400	384	370
	2004-05	401	446	418	403	387
Urban Males	1993-94	538	543	538	535	532
	1999-00	539	542	539	535	528
	2004-05	566	570	566	564	561
Urban Females	1993-94	132	165	152	143	132
	1999-00	126	147	138	129	123
	2004-05	148	178	168	159	150
Urban Persons	1993-94	345	363	355	349	343
	1999-00	342	354	347	341	334
	2004-05	366	382	375	370	364
All Males	1993-94	546	556	555	538	533
	1999-00	535	540	533	525	518
	2004-05	551	559	550	544	539
All Females	1993-94	211	290	245	227	208
	1999-00	208	263	231	212	196
	2004-05	224	294	257	233	215
All Persons	1993-94	384	423	400	388	376
	1999-00	376	406	386	373	361
	2004-05	392	430	407	395	381

Source: NSSO 50th, 55th and 61st Round Survey on Employment-Unemployment. Computed.

Table.2: Work Participation Rates Using Different Concepts

Category	Year	Per Thousand Participation Rates				
		UPS	UPSS	CWS	MCWS	CDS
Rural Males	1993-94	538	553	531	513	504
	1999-00	522	531	510	491	478
	2004-05	535	546	524	503	488
Rural Females	1993-94	234	328	267	242	219
	1999-00	231	299	253	227	204
	2004-05	242	327	275	247	216
Rural Persons	1993-94	390	444	403	381	366
	1999-00	380	417	384	362	344
	2004-05	391	439	402	377	355
Urban Males	1993-94	513	521	511	502	496
	1999-00	513	518	509	500	490
	2004-05	541	549	537	527	519
Urban Females	1993-94	121	155	139	129	120
	1999-00	117	139	128	118	111
	2004-05	135	166	152	142	133
Urban Persons	1993-94	327	347	334	325	317
	1999-00	324	337	327	318	309
	2004-05	346	365	353	343	334
All Males	1993-94	532	545	526	511	502
	1999-00	520	527	510	493	481
	2004-05	536	547	527	509	496
All Females	1993-94	206	286	236	214	195
	1999-00	203	259	222	200	181
	2004-05	215	287	244	216	195
All Persons	1993-94	375	420	386	367	354
	1999-00	365	397	370	350	335
	2004-05	380	420	389	368	350

Source: NSSO 50th, 55th and 61st Round Survey on Employment-Unemployment. Computed.

Table.3: Unemployment Rates Using Different Concepts

Category	Year	Percentage Unemployment Rates				
		UPS	UPSS	CWS	MCWS	CDS
Rural Males	1993-94	2	1.4	3	4.8	5.6
	1999-00	2.1	1.7	3.9	5.9	7.2
	2004-05	2.2	1.6	3.8	6.4	8
Rural Females	1993-94	1.4	0.8	3	4.9	5.6
	1999-00	1.5	1	3.7	5.6	7
	2004-05	3.1	1.8	4.2	6.8	8.7
Rural Persons	1993-94	1.8	1.2	3	4.8	5.6
	1999-00	1.9	1.5	3.8	5.8	7.1
	2004-05	2.5	1.7	3.9	6.5	8.2
Urban Males	1993-94	4.5	4.1	5.2	6.1	6.7
	1999-00	4.8	4.5	5.6	6.5	7.3
	2004-05	4.4	3.8	5.2	6.6	7.5
Urban Females	1993-94	8.2	6.2	8.4	10	10.5
	1999-00	7.1	5.7	7.3	8.6	9.4
	2004-05	9.1	6.9	9	10.5	11.6
Urban Persons	1993-94	5.2	4.5	5.8	6.8	7.4
	1999-00	5.2	4.8	5.9	6.9	7.7
	2004-05	5.3	4.5	6	7.4	8.3
All Males	1993-94	2.6	2.1	3.5	5.1	5.9
	1999-00	2.8	2.4	4.4	6.1	7.2
	2004-05	2.7	2.2	4.2	6.4	7.8
All Females	1993-94	2.4	1.5	3.8	5.7	6.3
	1999-00	2.3	1.7	4.2	6	7.4
	2004-05	4.1	2.6	5	7.4	9.2
All Persons	1993-94	2.6	1.9	3.6	5.3	6
	1999-00	2.7	2.2	4.3	6.1	7.3
	2004-05	3.1	2.3	4.4	6.7	8.2

Source: *ibid*

Table 4: Percentage Distribution of Persons in CWS Labour Force but not in UPS Labour Force by Activity Status

CWS	UPS						Total
	91	92	93	94	95	97	
11	1.4	7.2	16.8	0.4	0.1	0.4	26.2
12	0.0	0.2	0.1	0.1	0.0	0.0	0.4
21	6.0	15.3	34.9	0.2	0.0	0.6	57.0
31	0.8	0.6	0.4	0.0	0.0	0.0	1.9
41	0.0	0.0	0.2	0.0	0.0	0.0	0.2
51	1.0	2.9	5.9	0.1	0.0	0.3	10.2
61	0.0	0.1	0.1	0.0	0.0	0.0	0.3
62	0.1	0.1	0.2	0.0	0.0	0.0	0.5
71	0.0	0.0	0.0	0.0	0.1	0.0	0.1
72	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81	1.0	0.5	0.6	0.0	0.1	0.1	2.3
82	0.2	0.4	0.4	0.0	0.0	0.1	1.0
Total	10.5	27.2	59.7	0.9	0.3	1.6	100.0

Source: ibid

Table 5: Percentage Distribution of Persons in CWS Labour Force but not in UPS Labour Force by Area, Gender and Weekly Status

Area & Gender	Weekly Status				Total
	11	21	41 & 51	Others	
Rural male	1.2	4.6	0.8	1.2	7.8
Rural Female	19.2	47.3	8.3	2.7	77.5
Rural Persons	20.4	51.9	9.1	3.9	85.3
Urban Male	0.5	0.7	0.2	1.0	2.4
Urban Female	5.3	4.4	1.1	1.6	12.4
Urban Persons	5.8	5.1	1.3	2.5	14.74
Total Male	1.6	5.3	1.0	2.3	10.2
Total Female	24.5	51.7	9.4	4.2	89.8
Total Persons	26.2	57.0	10.4	6.4	100.0

Source: ibid

Table 6: Percentage Distribution of Persons in UPS Labour Fore but not in CWS by Activity Status

UPS	CWS							
	91	92	93	94	95	97	98	Total
11	0.5	4.5	2.9	0.2	0.3	4.4	0.4	13.1
12	0.0	0.5	0.1	0.1	0.1	0.4	0.0	1.2
21	0.4	16.4	12.7	0.0	0.1	3.9	0.1	33.7
31	0.1	0.9	0.0	0.5	0.1	0.4	0.0	2.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
51	0.2	16.4	9.9	0.1	0.4	5.8	11.0	43.8
81	1.4	3.5	0.5	0.0	0.0	0.4	0.2	6.1
Total	2.6	42.3	26.1	0.9	1.1	15.4	11.7	100.0

Source: ibid

Table 7: Distribution of CWS Labour Force by Days in Labour Force

Days in Labour Force	No: of Persons		Percentage to total	Percentage in work force on all days
	In labour force	in work force on all days		
0.5	77693	77693	0.02	100
1	1296344	1270635	0.29	98.0
1.5	1110660	1092289	0.25	98.3
2	4271906	4234209	0.96	99.1
2.5	1407828	1377478	0.32	97.8
3	4983691	4904584	1.12	98.4
3.5	22636751	22248770	5.09	98.3
4	8150728	8002236	1.83	98.2
4.5	1048676	1013408	0.24	96.6
5	9374025	8964461	2.11	95.6
5.5	924587	889008	0.21	96.2
6	7452229	6967084	1.68	93.5
6.5	291502	270084	0.07	92.7
7	381735693	327073674	85.83	85.7
Total	444762313	388385613	100.00	87.3

Source: ibid

Table 8: Percentage Distribution of Persons with 0.5-3 days in Labour Force by Literacy Status

Literacy Status	Rural			Urban			Rural + Urban		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Illiterates	8.51	40.72	49.23	0.62	3.12	3.74	9.13	43.84	52.97
Below Primary									
Literate	3.39	5.81	9.20	0.36	0.93	1.29	3.75	6.74	10.49
Primary	4.23	7.29	11.52	0.40	1.60	2.00	4.63	8.89	13.52
Middle	4.10	6.38	10.48	0.69	1.65	2.33	4.78	8.03	12.81
Secondary	2.40	2.02	4.42	0.40	0.69	1.10	2.80	2.71	5.51
Higher Secondary	1.18	0.73	1.92	0.54	0.72	1.26	1.73	1.45	3.18
Graduate & above	0.47	0.24	0.71	0.27	0.49	0.75	0.73	0.73	1.46
Non Reporting	0.05	0.01	0.06	0.00	0.00	0.00	0.05	0.01	0.06
Total	24.32	63.20	87.52	3.28	9.20	12.48	27.60	72.40	100.00

Source: ibid

Table 9: Persons (in millions) reporting at least 3.5 days of unemployment in a week.

Segment/ Year	Absolute Number			Percentage to MCWS Labourforce		
	1983	1993-94	2004-05	83 to 93-94	93-94 to 04-05	83 to 04-05
Rural Males	8.82	11.47	13.52	4.75	5.83	6.30
Rural Females	3.95	4.66	6.64	4.48	5.10	6.69
Rural Persons	12.76	16.13	20.16	4.66	5.60	6.42
Urban Males	4.02	5.17	6.10	6.02	6.44	6.57
Urban Females	1.59	1.52	2.39	9.43	8.12	10.37
Urban Persons	5.61	6.69	8.49	6.71	6.76	7.32
All Males	12.84	16.64	19.63	5.08	6.01	6.38
All Females	5.54	6.18	9.03	5.28	5.61	7.38
All Persons	18.38	22.82	28.65	5.14	5.89	6.66

Source: NSSO 50th, 55th and 61st Round Survey on Employment-Unemployment. Computed.

Table 10: Estimates of Part Time Workers (in million) and Rates of Part Time Workers (%)

Segment / Year	1993-94	1999-2000	2004-05
Rural Males	5.97 (3.31)	7.19 (3.80)	8.70 (4.15)
Rural Females	8.37 (9.80)	9.26 (10.51)	10.76 (10.42)
Rural Persons	14.33 (5.40)	16.44 (5.93)	19.46 (6.22)
Urban Males	1.09 (1.72)	1.33 (1.76)	1.69 (1.91)
Urban Females	1.16 (7.53)	1.30 (7.45)	1.48 (6.69)
Urban Persons	2.26 (2.86)	2.63 (2.82)	3.17 (2.87)
All Males	7.06 (2.90)	8.52 (3.22)	10.39 (3.49)
All Females	9.53 (9.45)	10.55 (10.01)	12.23 (9.77)
All Persons	16.59 (4.82)	19.07 (5.15)	22.63 (5.34)

Note: Figures in brackets are percentages of CWS workers who worked for 0.5 to 3.0 days in the reference week.

Source: ibid

Table 11: Estimates of Underemployed (in million) and Underemployment Rates (%)

Segment/ Year	1993-94	1999-2000	2004-05
Rural Males	3.40 (1.89)	3.91 (2.07)	5.56 (2.65)
Rural Females	1.48 (1.73)	1.55 (1.76)	2.46 (2.39)
Rural Persons	4.88 (1.84)	5.47 (1.97)	8.02 (2.56)
Urban Males	0.60 (0.95)	0.71 (0.94)	1.28 (1.45)
Urban Females	0.21 (1.36)	0.21 (1.19)	0.27 (1.24)
Urban Persons	0.81 (1.03)	0.92 (0.99)	1.55 (1.41)
All Males	4.00 (1.64)	4.62 (1.75)	6.84 (2.29)
All Females	1.69 (1.67)	1.76 (1.67)	2.74 (2.18)
All Persons	5.69 (1.65)	6.38 (1.72)	9.57 (2.26)

[Figures in brackets are percentages of CWS Workers who worked for 0.5 to 3.0 days in a week and reported 0.5 or more days of unemployment to CWS Workers.]

Source: NSSO 50th, 55th and 61st Round Survey on Employment-Unemployment. Computed.

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Annex 5.1: State-wise UPSS Labour Force by Sector and Sex as on 1st April of 2007, 2012 and 2017.

Table 1: State-wise Labour Force Projections for 2007 (in million)

State/Union	Rural			Urban			Total		
Territory	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	18.41	14.30	32.70	6.90	2.46	9.36	25.30	16.76	42.07
Assam	7.16	2.58	9.74	1.33	0.22	1.55	8.48	2.80	11.28
Bihar	22.06	6.39	28.45	2.60	0.40	2.99	24.66	6.79	31.44
Gujarat	10.49	6.94	17.43	7.06	1.65	8.70	17.55	8.59	26.13
Haryana	4.57	2.52	7.09	2.67	0.47	3.14	7.24	2.99	10.23
Himachal Pradesh	1.75	1.50	3.25	0.25	0.08	0.34	2.00	1.58	3.58
Jammu & Kashmir	2.42	1.30	3.72	0.96	0.17	1.13	3.39	1.47	4.86
Karnataka	11.39	8.13	19.53	6.31	2.05	8.36	17.70	10.19	27.89
Kerala	7.38	4.08	11.47	2.60	1.31	3.90	9.98	5.39	15.37
Madhya Pradesh	13.73	8.81	22.55	5.53	1.39	6.92	19.26	10.21	29.47
Maharashtra	17.38	13.39	30.76	15.28	4.20	19.48	32.66	17.59	50.24
Orissa	10.11	5.80	15.90	1.97	0.57	2.54	12.07	6.37	18.44
Punjab	5.19	2.64	7.83	3.25	0.71	3.96	8.45	3.35	11.79
Rajasthan	13.06	9.42	22.48	4.42	1.34	5.76	17.48	10.76	28.24
Tamil Nadu	9.91	7.51	17.43	10.44	4.15	14.59	20.36	11.66	32.02
Uttar Pradesh	39.89	16.67	56.56	11.85	2.17	14.03	51.74	18.84	70.58
West Bengal	18.86	5.49	24.36	8.16	1.91	10.07	27.02	7.40	34.42
Jharkhand	6.30	3.40	9.69	1.93	0.42	2.36	8.23	3.82	12.05
Chhattisgarh	5.01	4.07	9.08	1.52	0.42	1.95	6.54	4.49	11.03
Uttarakhand	1.88	1.50	3.38	0.79	0.17	0.96	2.67	1.67	4.33
Other NE States	2.99	1.71	4.70	0.83	0.35	1.18	3.82	2.06	5.88
Other states	0.89	0.29	1.18	5.67	0.92	6.59	6.56	1.21	7.77
Total	230.84	128.44	359.27	102.31	27.55	129.86	333.15	155.98	489.13

Source: Computed & Projected by NCEUS.

Table 2: State-wise Labour Force Projections for 2012(in million)

State/Union Territory	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	19.70	15.20	34.91	7.38	2.77	10.15	27.09	17.97	45.06
Assam	7.98	3.07	11.05	1.56	0.28	1.84	9.54	3.35	12.89
Bihar	24.89	6.46	31.35	2.92	0.45	3.37	27.81	6.91	34.72
Gujarat	11.42	7.54	18.96	8.07	1.83	9.90	19.49	9.37	28.86
Haryana	5.03	2.95	7.98	3.15	0.57	3.72	8.18	3.52	11.70
Himachal Pradesh	1.88	1.63	3.52	0.30	0.10	0.40	2.18	1.73	3.91
Jammu & Kashmir	2.61	1.36	3.96	1.11	0.19	1.30	3.72	1.54	5.26
Karnataka	12.15	8.71	20.85	7.09	2.23	9.32	19.23	10.94	30.17
Kerala	7.79	4.11	11.90	2.69	1.34	4.03	10.48	5.45	15.93
Madhya Pradesh	15.22	9.42	24.64	6.41	1.62	8.03	21.63	11.04	32.67
Maharashtra	18.53	14.03	32.57	17.42	4.96	22.38	35.95	19.00	54.94
Orissa	10.80	6.39	17.18	2.21	0.73	2.93	13.00	7.11	20.12
Punjab	5.46	2.80	8.26	3.78	0.83	4.61	9.24	3.63	12.87
Rajasthan	14.72	10.33	25.04	5.06	1.53	6.59	19.77	11.86	31.63
Tamil Nadu	9.30	7.13	16.42	11.93	4.83	16.77	21.23	11.96	33.19
Uttar Pradesh	44.57	19.02	63.59	13.57	2.51	16.08	58.14	21.53	79.67
West Bengal	20.81	5.77	26.58	8.67	2.07	10.74	29.48	7.84	37.32
Jharkhand	7.17	3.73	10.91	2.15	0.48	2.63	9.33	4.21	13.54
Chhattisgarh	5.45	4.32	9.77	1.80	0.50	2.30	7.25	4.82	12.07
Uttarakhand	2.07	1.65	3.73	0.91	0.20	1.11	2.99	1.85	4.84
Other NE States	3.44	2.06	5.50	0.94	0.41	1.36	4.39	2.47	6.86
Other states	0.99	0.33	1.32	6.95	1.07	8.01	7.94	1.40	9.34
Total	251.99	138.01	390.00	116.08	31.51	147.58	368.06	169.52	537.58

Source: *ibid*

Table 3: State-wise Labour Force Projections for 2017 (in million)

State/Union Territory	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	20.86	15.98	36.84	7.78	2.94	10.72	28.64	18.92	47.57
Assam	8.76	3.56	12.33	1.77	0.32	2.09	10.53	3.88	14.42
Bihar	27.88	6.52	34.39	3.19	0.51	3.70	31.07	7.03	38.10
Gujarat	12.30	8.17	20.48	8.99	2.01	10.99	21.29	10.18	31.47
Haryana	5.46	3.42	8.87	3.65	0.66	4.30	9.11	4.07	13.18
Himachal Pradesh	2.01	1.73	3.74	0.33	0.11	0.44	2.34	1.84	4.18
Jammu & Kashmir	2.85	1.46	4.30	1.24	0.20	1.43	4.08	1.65	5.74
Karnataka	12.68	9.28	21.96	7.79	2.47	10.26	20.47	11.76	32.22
Kerala	8.14	4.25	12.39	2.77	1.35	4.12	10.92	5.59	16.51
Madhya Pradesh	16.85	10.15	27.00	7.21	1.81	9.02	24.06	11.96	36.02
Maharashtra	19.65	14.78	34.44	19.40	5.51	24.92	39.06	20.30	59.36
Orissa	11.42	6.90	18.31	2.40	0.83	3.23	13.82	7.73	21.55
Punjab	5.68	2.91	8.59	4.26	0.93	5.19	9.94	3.84	13.78
Rajasthan	16.61	11.45	28.06	5.61	1.71	7.32	22.22	13.16	35.38
Tamil Nadu	8.50	6.57	15.07	13.36	5.39	18.75	21.85	11.97	33.82
Uttar Pradesh	49.32	21.28	70.60	15.12	2.76	17.89	64.45	24.04	88.49
West Bengal	22.59	5.97	28.56	9.01	2.12	11.13	31.60	8.09	39.69
Jharkhand	8.08	4.20	12.28	2.37	0.54	2.91	10.45	4.74	15.19
Chhattisgarh	5.90	4.58	10.47	2.08	0.58	2.66	7.98	5.16	13.14
Uttarakhand	2.26	1.79	4.05	1.03	0.22	1.25	3.29	2.01	5.30
Other NE States	3.85	2.40	6.25	1.06	0.49	1.54	4.90	2.89	7.79
Other states	1.08	0.33	1.41	7.98	1.18	9.16	9.06	1.51	10.57
Total	272.72	147.68	420.40	128.41	34.64	163.04	401.12	182.32	583.44

Source: ibid

Table 4: Growth Rate in Labour Force Between 2007 and 2012

State/Union Territory	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	1.36	1.23	1.32	1.35	2.40	1.63	1.38	1.40	1.38
Assam	2.19	3.54	2.56	3.24	4.94	3.49	2.38	3.65	2.70
Bihar	2.44	0.22	1.96	2.35	2.38	2.42	2.43	0.35	2.00
Gujarat	1.71	1.67	1.70	2.71	2.09	2.62	2.12	1.75	2.01
Haryana	1.94	3.20	2.39	3.36	3.93	3.45	2.47	3.32	2.72
Himachal Pradesh	1.44	1.68	1.61	3.71	4.56	3.30	1.74	1.83	1.78
Jammu & Kashmir	1.52	0.91	1.26	2.95	2.25	2.84	1.88	0.93	1.59
Karnataka	1.30	1.39	1.32	2.36	1.70	2.20	1.67	1.43	1.58
Kerala	1.09	0.15	0.74	0.68	0.45	0.66	0.98	0.22	0.72
Madhya Pradesh	2.08	1.35	1.79	3.00	3.11	3.02	2.35	1.58	2.08
Maharashtra	1.29	0.94	1.15	2.66	3.38	2.81	1.94	1.55	1.80
Orissa	1.33	1.96	1.56	2.33	5.07	2.90	1.50	2.22	1.76
Punjab	1.02	1.18	1.07	3.07	3.17	3.09	1.80	1.62	1.77
Rajasthan	2.42	1.86	2.18	2.74	2.69	2.73	2.49	1.97	2.29
Tamil Nadu	-1.26	-1.03	-1.19	2.70	3.08	2.82	0.84	0.51	0.72
Uttar Pradesh	2.24	2.67	2.37	2.75	2.95	2.77	2.36	2.71	2.45
West Bengal	1.99	1.00	1.76	1.22	1.62	1.30	1.76	1.16	1.63
Jharkhand	2.62	1.87	2.40	2.18	2.71	2.19	2.54	1.96	2.36
Chhattisgarh	1.70	1.20	1.48	3.44	3.55	3.36	2.08	1.43	1.82
Uttarakhand	1.94	1.92	1.99	2.87	3.30	2.95	2.29	2.07	2.25
Other NE States	2.84	3.79	3.19	2.52	3.22	2.88	2.82	3.70	3.13
Other states	2.15	2.62	2.27	4.16	3.07	3.98	3.89	2.96	3.75
Total	1.77	1.45	1.65	2.56	2.72	2.59	2.01	1.68	1.91

Source: *ibid*

Table 5: Growth Rate in Labour Force Between 2012 and 2017

State/Union Territory	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	1.15	1.01	1.08	1.06	1.20	1.10	1.12	1.04	1.09
Assam	1.88	3.01	2.22	2.56	2.71	2.58	1.99	2.98	2.27
Bihar	2.29	0.19	1.87	1.78	2.53	1.89	2.24	0.34	1.88
Gujarat	1.50	1.62	1.55	2.18	1.89	2.11	1.78	1.67	1.75
Haryana	1.65	3.00	2.14	2.99	2.98	2.94	2.18	2.95	2.41
Himachal Pradesh	1.35	1.20	1.22	1.92	1.92	1.92	1.43	1.24	1.34
Jammu & Kashmir	1.77	1.43	1.66	2.24	1.03	1.92	1.86	1.39	1.76
Karnataka	0.86	1.28	1.04	1.90	2.07	1.94	1.26	1.46	1.32
Kerala	0.88	0.67	0.81	0.59	0.15	0.44	0.83	0.51	0.72
Madhya Pradesh	2.06	1.50	1.85	2.38	2.24	2.35	2.15	1.61	1.97
Maharashtra	1.18	1.05	1.12	2.18	2.13	2.17	1.67	1.33	1.56
Orissa	1.12	1.55	1.28	1.66	2.60	1.97	1.23	1.69	1.38
Punjab	0.79	0.77	0.79	2.42	2.30	2.40	1.47	1.13	1.38
Rajasthan	2.45	2.08	2.30	2.09	2.25	2.12	2.36	2.10	2.27
Tamil Nadu	-1.78	-1.62	-1.70	2.29	2.22	2.26	0.58	0.02	0.38
Uttar Pradesh	2.05	2.27	2.11	2.19	1.92	2.16	2.08	2.23	2.12
West Bengal	1.66	0.68	1.45	0.77	0.48	0.72	1.40	0.63	1.24
Jharkhand	2.42	2.40	2.39	1.97	2.38	2.04	2.29	2.40	2.33
Chhattisgarh	1.60	1.18	1.39	2.93	3.01	2.95	1.94	1.37	1.71
Uttarakhand	1.77	1.64	1.66	2.51	1.92	2.40	1.93	1.67	1.83
Other NE States	2.28	3.10	2.59	2.43	3.63	2.52	2.22	3.19	2.58
Other states	1.76	0.00	1.33	2.80	1.98	2.72	2.67	1.52	2.51
Total	1.59	1.36	1.51	2.04	1.91	2.01	1.74	1.47	1.65

Source: ibid

Annex 5.2: State and Age Group-wise UPSS Labour Force by Sector and Sex as on 1st April of 2007, 2012 and 2017.

Projected Age-Sex UPSS Labour Force of Andhra Pradesh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.01	0.01	0.02	0.00	0.00	0.00	0.01	0.01	0.02
10-14	0.30	0.45	0.75	0.06	0.05	0.11	0.36	0.51	0.86
15-19	1.98	1.52	3.50	0.50	0.21	0.71	2.48	1.72	4.21
20-24	2.66	1.79	4.44	0.94	0.30	1.24	3.59	2.09	5.68
25-29	2.42	1.90	4.32	1.05	0.31	1.36	3.46	2.21	5.68
30-34	2.19	1.92	4.11	0.96	0.38	1.34	3.16	2.30	5.45
35-39	2.03	1.76	3.79	0.85	0.32	1.17	2.88	2.08	4.96
40-44	1.84	1.48	3.32	0.77	0.28	1.05	2.60	1.77	4.37
45-49	1.58	1.23	2.81	0.67	0.22	0.89	2.25	1.44	3.70
50-54	1.27	0.91	2.19	0.53	0.17	0.71	1.80	1.09	2.89
55-59	0.93	0.66	1.59	0.34	0.10	0.44	1.27	0.76	2.03
60+	1.21	0.67	1.88	0.23	0.11	0.34	1.44	0.78	2.22
Total	18.41	14.30	32.70	6.90	2.46	9.36	25.30	16.76	42.07

Source: *ibid*

Projected Age-Sex UPSS Labour Force of Andhra Pradesh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.05	0.26	0.31	0.02	0.04	0.06	0.07	0.29	0.37
15-19	1.84	1.43	3.27	0.43	0.18	0.61	2.27	1.61	3.88
20-24	2.99	1.92	4.91	0.90	0.32	1.22	3.89	2.23	6.12
25-29	2.73	1.96	4.69	1.10	0.35	1.45	3.83	2.31	6.14
30-34	2.37	1.99	4.36	1.07	0.45	1.52	3.44	2.44	5.88
35-39	2.14	1.93	4.07	0.94	0.40	1.35	3.09	2.33	5.41
40-44	1.93	1.66	3.59	0.83	0.33	1.17	2.76	2.00	4.76
45-49	1.75	1.43	3.18	0.76	0.24	1.00	2.51	1.67	4.19
50-54	1.46	1.07	2.53	0.63	0.21	0.84	2.09	1.28	3.37
55-59	1.11	0.77	1.87	0.43	0.12	0.55	1.54	0.89	2.43
60+	1.33	0.79	2.12	0.26	0.13	0.40	1.60	0.92	2.52
Total	19.70	15.20	34.91	7.38	2.77	10.15	27.09	17.97	45.06

Source: ibid

Projected Age-Sex UPSS Labour Force of Andhra Pradesh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.09	0.09	0.00	0.03	0.03	0.00	0.12	0.12
15-19	1.52	1.20	2.72	0.36	0.16	0.52	1.89	1.35	3.24
20-24	2.96	1.94	4.90	0.82	0.29	1.11	3.78	2.23	6.01
25-29	3.10	2.22	5.32	1.11	0.35	1.45	4.20	2.57	6.78
30-34	2.68	2.07	4.74	1.14	0.46	1.61	3.82	2.53	6.35
35-39	2.31	1.97	4.28	1.05	0.43	1.49	3.36	2.40	5.76
40-44	2.04	1.80	3.84	0.94	0.38	1.31	2.97	2.18	5.15
45-49	1.85	1.60	3.45	0.83	0.28	1.12	2.69	1.88	4.57
50-54	1.62	1.27	2.88	0.71	0.25	0.96	2.33	1.52	3.85
55-59	1.28	0.90	2.18	0.51	0.15	0.67	1.80	1.05	2.85
60+	1.51	0.92	2.43	0.30	0.16	0.46	1.80	1.09	2.89
Total	20.86	15.98	36.84	7.78	2.94	10.72	28.64	18.92	47.57

Source: ibid

Projected Age-Sex UPSS Labour Force of Assam in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
10-14	0.08	0.03	0.10	0.00	0.00	0.00	0.08	0.03	0.11
15-19	0.71	0.30	1.00	0.07	0.01	0.08	0.77	0.31	1.08
20-24	1.01	0.35	1.36	0.14	0.05	0.19	1.15	0.40	1.55
25-29	0.96	0.33	1.29	0.20	0.04	0.24	1.16	0.37	1.53
30-34	0.88	0.38	1.26	0.20	0.03	0.23	1.08	0.41	1.49
35-39	0.83	0.40	1.23	0.19	0.03	0.22	1.02	0.43	1.45
40-44	0.76	0.30	1.06	0.17	0.02	0.19	0.93	0.32	1.24
45-49	0.62	0.19	0.81	0.14	0.02	0.16	0.76	0.21	0.97
50-54	0.47	0.14	0.62	0.11	0.01	0.12	0.58	0.16	0.74
55-59	0.35	0.06	0.41	0.07	0.01	0.07	0.42	0.07	0.49
60+	0.49	0.09	0.58	0.04	0.00	0.04	0.53	0.09	0.62
Total	7.16	2.58	9.74	1.33	0.22	1.55	8.48	2.80	11.28

Source: ibid

Projected Age-Sex UPSS Labour Force of Assam in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.06	0.02	0.07	0.00	0.00	0.00	0.06	0.02	0.07
15-19	0.72	0.31	1.03	0.06	0.01	0.08	0.78	0.32	1.10
20-24	1.21	0.44	1.65	0.17	0.06	0.23	1.37	0.50	1.88
25-29	1.10	0.37	1.47	0.23	0.05	0.28	1.33	0.42	1.75
30-34	0.92	0.41	1.34	0.23	0.04	0.28	1.16	0.46	1.61
35-39	0.84	0.47	1.31	0.22	0.04	0.26	1.06	0.51	1.58
40-44	0.80	0.38	1.17	0.19	0.02	0.21	0.99	0.40	1.39
45-49	0.72	0.25	0.97	0.17	0.03	0.20	0.89	0.29	1.17
50-54	0.58	0.21	0.79	0.14	0.01	0.15	0.72	0.22	0.94
55-59	0.45	0.08	0.53	0.09	0.01	0.10	0.54	0.09	0.63
60+	0.60	0.12	0.72	0.04	0.00	0.05	0.64	0.13	0.77
Total	7.98	3.07	11.05	1.56	0.28	1.84	9.54	3.35	12.89

Source: ibid

Projected Age-Sex UPSS Labour Force of Assam in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.03	0.01	0.04	0.00	0.00	0.00	0.03	0.01	0.04
15-19	0.67	0.29	0.97	0.06	0.01	0.08	0.74	0.31	1.04
20-24	1.25	0.49	1.74	0.18	0.07	0.25	1.43	0.55	1.98
25-29	1.30	0.45	1.75	0.27	0.06	0.33	1.56	0.51	2.07
30-34	1.06	0.47	1.53	0.27	0.05	0.32	1.33	0.52	1.85
35-39	0.88	0.52	1.40	0.26	0.04	0.30	1.14	0.56	1.70
40-44	0.82	0.44	1.26	0.22	0.02	0.24	1.03	0.46	1.50
45-49	0.76	0.32	1.07	0.19	0.04	0.23	0.95	0.35	1.30
50-54	0.68	0.29	0.97	0.16	0.01	0.18	0.85	0.30	1.15
55-59	0.56	0.12	0.68	0.12	0.01	0.13	0.68	0.13	0.80
60+	0.75	0.17	0.92	0.05	0.01	0.05	0.80	0.17	0.97
Total	8.76	3.56	12.33	1.77	0.32	2.09	10.53	3.88	14.42

Source: ibid

Projected Age-Sex UPSS Labour Force of Bihar in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.19	0.04	0.23	0.02	0.01	0.03	0.22	0.04	0.26
15-19	2.52	0.42	2.94	0.15	0.01	0.17	2.67	0.43	3.11
20-24	3.16	0.58	3.74	0.34	0.05	0.38	3.49	0.63	4.12
25-29	2.71	0.82	3.53	0.39	0.05	0.44	3.10	0.87	3.98
30-34	2.46	0.91	3.37	0.35	0.05	0.40	2.81	0.96	3.77
35-39	2.34	1.01	3.35	0.31	0.05	0.37	2.65	1.06	3.71
40-44	2.18	0.85	3.03	0.29	0.05	0.34	2.47	0.90	3.37
45-49	1.87	0.58	2.45	0.25	0.03	0.28	2.12	0.61	2.73
50-54	1.52	0.47	1.99	0.21	0.03	0.24	1.73	0.50	2.23
55-59	1.18	0.33	1.51	0.15	0.03	0.17	1.32	0.36	1.68
60+	1.93	0.39	2.32	0.14	0.03	0.17	2.06	0.42	2.48
Total	22.06	6.39	28.45	2.60	0.40	2.99	24.66	6.79	31.44

Source: ibid

Projected Age-Sex UPSS Labour Force of Bihar in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.03	0.00	0.03	0.01	0.00	0.01	0.04	0.00	0.04
15-19	2.58	0.28	2.86	0.12	0.00	0.12	2.70	0.28	2.98
20-24	4.19	0.64	4.83	0.36	0.06	0.42	4.56	0.70	5.25
25-29	3.39	0.84	4.23	0.47	0.07	0.53	3.86	0.91	4.76
30-34	2.62	0.83	3.45	0.43	0.06	0.48	3.05	0.89	3.94
35-39	2.36	1.01	3.37	0.36	0.06	0.42	2.73	1.06	3.79
40-44	2.25	0.91	3.16	0.32	0.06	0.38	2.57	0.97	3.53
45-49	2.09	0.62	2.71	0.28	0.03	0.31	2.37	0.66	3.02
50-54	1.77	0.50	2.27	0.24	0.04	0.28	2.00	0.55	2.55
55-59	1.40	0.37	1.78	0.18	0.04	0.22	1.59	0.41	2.00
60+	2.21	0.45	2.66	0.15	0.04	0.19	2.36	0.49	2.85
Total	24.89	6.46	31.35	2.92	0.45	3.37	27.81	6.91	34.72

Source: ibid

Projected Age-Sex UPSS Labour Force of Bihar in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	2.39	0.08	2.47	0.09	0.00	0.09	2.48	0.08	2.56
20-24	4.61	0.59	5.20	0.34	0.06	0.40	4.95	0.65	5.60
25-29	4.49	1.05	5.54	0.51	0.08	0.59	5.00	1.12	6.12
30-34	3.29	0.84	4.13	0.51	0.07	0.58	3.80	0.91	4.71
35-39	2.53	0.96	3.48	0.44	0.07	0.51	2.97	1.02	3.99
40-44	2.27	0.90	3.17	0.37	0.06	0.43	2.64	0.96	3.60
45-49	2.17	0.63	2.79	0.30	0.04	0.34	2.47	0.66	3.13
50-54	1.98	0.53	2.51	0.26	0.05	0.31	2.24	0.58	2.81
55-59	1.64	0.41	2.05	0.21	0.05	0.26	1.85	0.46	2.31
60+	2.52	0.53	3.05	0.17	0.05	0.21	2.68	0.58	3.26
Total	27.88	6.52	34.39	3.19	0.51	3.70	31.07	7.03	38.10

Source: ibid

Projected Age-Sex UPSS Labour Force of Chhattisgarh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.05	0.10	0.14	0.01	0.01	0.01	0.05	0.10	0.16
15-19	0.54	0.47	1.01	0.10	0.04	0.13	0.64	0.50	1.14
20-24	0.72	0.51	1.23	0.21	0.05	0.26	0.93	0.56	1.48
25-29	0.61	0.46	1.07	0.24	0.06	0.30	0.85	0.52	1.37
30-34	0.57	0.53	1.10	0.22	0.05	0.27	0.79	0.58	1.37
35-39	0.56	0.49	1.05	0.19	0.06	0.25	0.75	0.55	1.30
40-44	0.51	0.48	0.99	0.17	0.05	0.22	0.68	0.53	1.21
45-49	0.43	0.37	0.80	0.14	0.05	0.19	0.57	0.42	0.98
50-54	0.34	0.27	0.60	0.10	0.03	0.13	0.44	0.29	0.73
55-59	0.27	0.19	0.46	0.07	0.02	0.09	0.34	0.21	0.55
60+	0.42	0.21	0.63	0.07	0.02	0.09	0.49	0.23	0.72
Total	5.01	4.07	9.08	1.52	0.42	1.95	6.54	4.49	11.03

Source: ibid

Projected Age-Sex UPSS Labour Force of Chhattisgarh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.04	0.05	0.01	0.00	0.01	0.02	0.04	0.06
15-19	0.54	0.45	0.98	0.10	0.04	0.14	0.64	0.49	1.13
20-24	0.85	0.59	1.44	0.23	0.07	0.29	1.08	0.65	1.74
25-29	0.71	0.49	1.21	0.29	0.07	0.36	1.01	0.56	1.57
30-34	0.57	0.52	1.09	0.27	0.06	0.33	0.84	0.58	1.42
35-39	0.55	0.50	1.04	0.23	0.07	0.30	0.78	0.56	1.34
40-44	0.54	0.53	1.07	0.19	0.06	0.25	0.73	0.59	1.32
45-49	0.49	0.44	0.93	0.17	0.05	0.22	0.66	0.49	1.15
50-54	0.40	0.31	0.71	0.13	0.03	0.16	0.53	0.34	0.87
55-59	0.31	0.22	0.53	0.09	0.02	0.11	0.40	0.24	0.65
60+	0.48	0.24	0.72	0.09	0.03	0.12	0.56	0.27	0.83
Total	5.45	4.32	9.77	1.80	0.50	2.30	7.25	4.82	12.07

Source: ibid

Projected Age-Sex UPSS Labour Force of Chhattisgarh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
15-19	0.51	0.40	0.91	0.10	0.04	0.15	0.62	0.44	1.06
20-24	0.87	0.60	1.47	0.25	0.07	0.32	1.12	0.67	1.79
25-29	0.85	0.58	1.43	0.34	0.09	0.43	1.19	0.66	1.86
30-34	0.67	0.57	1.24	0.32	0.08	0.40	1.00	0.64	1.64
35-39	0.55	0.49	1.04	0.27	0.07	0.35	0.82	0.57	1.39
40-44	0.53	0.54	1.07	0.22	0.06	0.29	0.75	0.61	1.36
45-49	0.52	0.49	1.01	0.19	0.06	0.25	0.71	0.55	1.26
50-54	0.46	0.37	0.83	0.15	0.04	0.20	0.61	0.41	1.02
55-59	0.37	0.26	0.63	0.12	0.03	0.14	0.49	0.29	0.77
60+	0.56	0.28	0.84	0.11	0.03	0.14	0.67	0.32	0.98
Total	5.90	4.58	10.47	2.08	0.58	2.66	7.98	5.16	13.14

Source: ibid

Projected Age-Sex UPSS Labour Force of Gujarat in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
10-14	0.07	0.07	0.14	0.03	0.02	0.05	0.10	0.09	0.19
15-19	1.23	0.77	2.00	0.51	0.14	0.65	1.74	0.92	2.66
20-24	1.52	0.94	2.45	1.01	0.19	1.20	2.53	1.13	3.66
25-29	1.37	0.85	2.22	1.13	0.18	1.31	2.51	1.02	3.53
30-34	1.24	0.88	2.12	1.01	0.24	1.25	2.25	1.12	3.37
35-39	1.17	0.87	2.03	0.88	0.24	1.12	2.04	1.11	3.15
40-44	1.06	0.78	1.84	0.77	0.22	0.98	1.83	1.00	2.82
45-49	0.88	0.70	1.58	0.66	0.16	0.82	1.54	0.86	2.40
50-54	0.71	0.49	1.20	0.49	0.10	0.59	1.20	0.59	1.79
55-59	0.51	0.32	0.83	0.31	0.08	0.39	0.82	0.40	1.22
60+	0.74	0.27	1.01	0.24	0.08	0.32	0.99	0.35	1.34
Total	10.49	6.94	17.43	7.06	1.65	8.70	17.55	8.59	26.13

Source: ibid

Projected Age-Sex UPSS Labour Force of Gujarat in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
10-14	0.00	0.00	0.00	0.01	0.02	0.02	0.01	0.02	0.03
15-19	1.22	0.74	1.95	0.50	0.13	0.63	1.71	0.87	2.58
20-24	1.61	0.96	2.57	1.10	0.22	1.32	2.71	1.18	3.89
25-29	1.51	0.88	2.40	1.28	0.22	1.50	2.79	1.10	3.89
30-34	1.34	0.94	2.28	1.19	0.27	1.47	2.53	1.21	3.75
35-39	1.22	0.93	2.15	1.02	0.28	1.30	2.24	1.21	3.45
40-44	1.14	0.88	2.02	0.87	0.22	1.09	2.01	1.10	3.11
45-49	1.01	0.86	1.87	0.77	0.19	0.96	1.78	1.05	2.83
50-54	0.85	0.63	1.47	0.60	0.11	0.72	1.45	0.74	2.19
55-59	0.63	0.40	1.04	0.42	0.10	0.52	1.05	0.51	1.56
60+	0.90	0.31	1.21	0.30	0.07	0.37	1.20	0.38	1.58
Total	11.42	7.54	18.96	8.07	1.83	9.90	19.49	9.37	28.86

Source: ibid

Projected Age-Sex UPSS Labour Force of Gujarat in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
10-14	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.02
15-19	1.13	0.66	1.78	0.50	0.12	0.62	1.63	0.78	2.41
20-24	1.56	0.94	2.50	1.16	0.23	1.39	2.72	1.17	3.89
25-29	1.62	0.93	2.54	1.38	0.23	1.62	3.00	1.16	4.16
30-34	1.50	1.03	2.54	1.32	0.30	1.62	2.83	1.33	4.16
35-39	1.34	1.01	2.36	1.18	0.30	1.48	2.53	1.31	3.84
40-44	1.21	0.96	2.16	0.99	0.25	1.24	2.20	1.20	3.40
45-49	1.10	1.00	2.09	0.86	0.21	1.07	1.95	1.21	3.16
50-54	0.98	0.78	1.76	0.69	0.14	0.83	1.67	0.92	2.59
55-59	0.76	0.51	1.26	0.52	0.13	0.64	1.28	0.63	1.91
60+	1.10	0.36	1.46	0.38	0.10	0.47	1.48	0.46	1.94
Total	12.30	8.17	20.48	8.99	2.01	10.99	21.29	10.18	31.47

Source: ibid

Projected Age-Sex UPSS Labour Force of Haryana in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.02	0.03	0.05	0.13	0.00	0.13	0.14	0.03	0.18
15-19	0.36	0.24	0.60	0.33	0.05	0.38	0.68	0.29	0.98
20-24	0.79	0.34	1.14	0.43	0.06	0.49	1.22	0.40	1.63
25-29	0.70	0.32	1.02	0.40	0.06	0.46	1.10	0.38	1.48
30-34	0.60	0.36	0.96	0.34	0.07	0.41	0.94	0.43	1.36
35-39	0.51	0.34	0.85	0.29	0.07	0.36	0.80	0.41	1.21
40-44	0.45	0.31	0.76	0.25	0.07	0.33	0.71	0.39	1.09
45-49	0.37	0.24	0.61	0.20	0.04	0.24	0.58	0.27	0.85
50-54	0.27	0.13	0.40	0.14	0.03	0.16	0.41	0.16	0.57
55-59	0.19	0.09	0.28	0.04	0.01	0.05	0.23	0.10	0.33
60+	0.30	0.12	0.42	0.12	0.01	0.13	0.42	0.13	0.55
Total	4.57	2.52	7.09	2.67	0.47	3.14	7.24	2.99	10.23

Source: ibid

Projected Age-Sex UPSS Labour Force of Haryana in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.01	0.01	0.11	0.00	0.11	0.11	0.01	0.11
15-19	0.29	0.23	0.52	0.34	0.05	0.39	0.63	0.28	0.91
20-24	0.84	0.40	1.24	0.51	0.07	0.58	1.35	0.47	1.82
25-29	0.81	0.37	1.19	0.49	0.08	0.57	1.31	0.45	1.76
30-34	0.68	0.42	1.10	0.43	0.09	0.52	1.12	0.50	1.62
35-39	0.57	0.37	0.94	0.36	0.09	0.45	0.93	0.46	1.39
40-44	0.50	0.39	0.88	0.30	0.09	0.38	0.79	0.47	1.27
45-49	0.43	0.32	0.75	0.24	0.05	0.29	0.67	0.37	1.04
50-54	0.34	0.17	0.52	0.17	0.04	0.20	0.51	0.21	0.72
55-59	0.25	0.12	0.37	0.04	0.02	0.06	0.29	0.14	0.43
60+	0.31	0.16	0.47	0.16	0.01	0.16	0.47	0.16	0.63
Total	5.03	2.95	7.98	3.15	0.57	3.72	8.18	3.52	11.70

Source: ibid

Projected Age-Sex UPSS Labour Force of Haryana in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.09	0.00	0.09	0.09	0.00	0.09
15-19	0.22	0.20	0.42	0.35	0.05	0.41	0.57	0.25	0.82
20-24	0.80	0.38	1.18	0.57	0.08	0.65	1.38	0.46	1.83
25-29	0.88	0.43	1.31	0.58	0.10	0.68	1.47	0.52	1.99
30-34	0.80	0.55	1.35	0.53	0.11	0.63	1.33	0.66	1.98
35-39	0.66	0.41	1.07	0.45	0.10	0.55	1.11	0.51	1.62
40-44	0.56	0.46	1.02	0.36	0.10	0.46	0.92	0.55	1.47
45-49	0.48	0.40	0.88	0.28	0.05	0.33	0.76	0.45	1.21
50-54	0.40	0.23	0.63	0.19	0.04	0.23	0.59	0.27	0.86
55-59	0.30	0.17	0.48	0.04	0.02	0.06	0.35	0.19	0.54
60+	0.34	0.20	0.55	0.20	0.01	0.21	0.54	0.21	0.76
Total	5.46	3.42	8.87	3.65	0.66	4.30	9.11	4.07	13.18

Source: ibid

Projected Age-Sex UPSS Labour Force of Himachal Pradesh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.01	0.02	0.00	0.00	0.00	0.01	0.01	0.02
15-19	0.11	0.10	0.21	0.02	0.00	0.02	0.12	0.10	0.23
20-24	0.24	0.21	0.45	0.03	0.01	0.04	0.27	0.22	0.48
25-29	0.24	0.20	0.45	0.04	0.02	0.06	0.29	0.22	0.51
30-34	0.22	0.19	0.41	0.04	0.01	0.05	0.26	0.20	0.46
35-39	0.19	0.17	0.36	0.03	0.01	0.04	0.22	0.19	0.41
40-44	0.17	0.16	0.32	0.03	0.01	0.04	0.20	0.17	0.36
45-49	0.15	0.13	0.27	0.02	0.01	0.03	0.17	0.13	0.30
50-54	0.13	0.10	0.23	0.02	0.01	0.03	0.15	0.11	0.25
55-59	0.10	0.08	0.18	0.01	0.00	0.02	0.11	0.08	0.20
60+	0.20	0.14	0.34	0.01	0.01	0.02	0.21	0.15	0.36
Total	1.75	1.50	3.25	0.25	0.08	0.34	2.00	1.58	3.58

Source: ibid

Projected Age-Sex UPSS Labour Force of Himachal Pradesh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.09	0.08	0.16	0.02	0.00	0.02	0.10	0.08	0.19
20-24	0.24	0.22	0.46	0.03	0.01	0.04	0.27	0.23	0.50
25-29	0.27	0.22	0.49	0.04	0.02	0.06	0.31	0.24	0.55
30-34	0.25	0.21	0.46	0.04	0.01	0.06	0.29	0.22	0.52
35-39	0.22	0.20	0.41	0.04	0.01	0.05	0.26	0.21	0.47
40-44	0.19	0.18	0.36	0.03	0.01	0.05	0.22	0.19	0.41
45-49	0.16	0.15	0.31	0.03	0.01	0.04	0.19	0.15	0.35
50-54	0.14	0.12	0.26	0.02	0.01	0.03	0.17	0.13	0.29
55-59	0.11	0.09	0.21	0.02	0.01	0.02	0.13	0.10	0.23
60+	0.22	0.17	0.39	0.02	0.01	0.02	0.23	0.18	0.41
Total	1.88	1.63	3.52	0.30	0.10	0.40	2.18	1.73	3.91

Source: ibid

Projected Age-Sex UPSS Labour Force of Himachal Pradesh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.07	0.06	0.12	0.02	0.00	0.02	0.09	0.06	0.15
20-24	0.21	0.20	0.41	0.04	0.01	0.04	0.25	0.21	0.46
25-29	0.28	0.23	0.51	0.05	0.02	0.06	0.33	0.25	0.57
30-34	0.28	0.22	0.50	0.05	0.01	0.06	0.33	0.24	0.56
35-39	0.25	0.21	0.46	0.04	0.02	0.06	0.29	0.23	0.52
40-44	0.21	0.20	0.41	0.04	0.01	0.05	0.25	0.21	0.46
45-49	0.18	0.16	0.34	0.03	0.01	0.04	0.21	0.17	0.39
50-54	0.16	0.13	0.29	0.03	0.01	0.04	0.19	0.14	0.33
55-59	0.13	0.11	0.24	0.02	0.01	0.03	0.15	0.11	0.27
60+	0.25	0.21	0.46	0.02	0.01	0.03	0.27	0.22	0.48
Total	2.01	1.73	3.74	0.33	0.11	0.44	2.34	1.84	4.18

Source: ibid

Projected Age-Sex UPSS Labour Force of Jammu & Kashmir in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.01	0.02	0.00	0.02	0.02	0.01	0.03	0.04
15-19	0.26	0.18	0.44	0.02	0.02	0.04	0.28	0.20	0.48
20-24	0.37	0.20	0.57	0.12	0.03	0.15	0.49	0.23	0.72
25-29	0.33	0.18	0.51	0.15	0.03	0.18	0.48	0.20	0.68
30-34	0.28	0.15	0.43	0.14	0.02	0.16	0.42	0.17	0.59
35-39	0.25	0.16	0.40	0.13	0.02	0.15	0.38	0.17	0.56
40-44	0.22	0.14	0.36	0.12	0.01	0.13	0.35	0.15	0.49
45-49	0.20	0.11	0.30	0.10	0.01	0.11	0.29	0.12	0.41
50-54	0.16	0.08	0.24	0.08	0.01	0.09	0.23	0.09	0.32
55-59	0.11	0.06	0.17	0.05	0.00	0.05	0.17	0.06	0.23
60+	0.24	0.04	0.28	0.05	0.00	0.06	0.29	0.04	0.34
Total	2.42	1.30	3.72	0.96	0.17	1.13	3.39	1.47	4.86

Source: ibid

Projected Age-Sex UPSS Labour Force of Jammu & Kashmir in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
15-19	0.20	0.15	0.36	0.01	0.02	0.02	0.21	0.17	0.38
20-24	0.39	0.23	0.63	0.13	0.03	0.16	0.52	0.26	0.79
25-29	0.40	0.20	0.59	0.17	0.04	0.21	0.56	0.24	0.80
30-34	0.32	0.17	0.48	0.16	0.02	0.18	0.48	0.19	0.67
35-39	0.26	0.15	0.41	0.15	0.02	0.17	0.41	0.17	0.59
40-44	0.23	0.13	0.37	0.14	0.01	0.15	0.37	0.15	0.52
45-49	0.21	0.11	0.32	0.12	0.02	0.14	0.33	0.13	0.46
50-54	0.18	0.09	0.27	0.10	0.01	0.11	0.28	0.10	0.38
55-59	0.14	0.07	0.21	0.07	0.00	0.07	0.20	0.07	0.28
60+	0.28	0.04	0.32	0.07	0.00	0.07	0.35	0.05	0.40
Total	2.61	1.36	3.96	1.11	0.19	1.30	3.72	1.54	5.26

Source: ibid

Projected Age-Sex UPSS Labour Force of Jammu & Kashmir in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
15-19	0.19	0.14	0.32	0.00	0.01	0.01	0.19	0.15	0.34
20-24	0.37	0.22	0.59	0.13	0.03	0.16	0.50	0.25	0.75
25-29	0.45	0.22	0.68	0.18	0.04	0.22	0.63	0.27	0.90
30-34	0.39	0.20	0.59	0.18	0.03	0.21	0.57	0.23	0.80
35-39	0.30	0.18	0.47	0.17	0.02	0.20	0.47	0.20	0.67
40-44	0.25	0.14	0.39	0.15	0.01	0.17	0.40	0.16	0.56
45-49	0.22	0.12	0.34	0.13	0.02	0.15	0.35	0.14	0.49
50-54	0.20	0.11	0.30	0.12	0.01	0.13	0.31	0.12	0.43
55-59	0.16	0.08	0.24	0.08	0.00	0.09	0.24	0.09	0.33
60+	0.33	0.05	0.38	0.09	0.00	0.09	0.42	0.05	0.47
Total	2.85	1.46	4.30	1.24	0.20	1.43	4.08	1.65	5.74

Source: ibid

Projected Age-Sex UPSS Labour Force of Jharkhand in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
10-14	0.05	0.09	0.14	0.01	0.01	0.02	0.07	0.09	0.16
15-19	0.69	0.28	0.97	0.10	0.02	0.12	0.79	0.31	1.10
20-24	0.89	0.42	1.31	0.24	0.05	0.28	1.13	0.47	1.59
25-29	0.78	0.41	1.19	0.30	0.05	0.35	1.08	0.46	1.54
30-34	0.72	0.52	1.24	0.27	0.07	0.34	0.99	0.58	1.58
35-39	0.70	0.44	1.14	0.24	0.05	0.28	0.93	0.49	1.42
40-44	0.65	0.39	1.03	0.21	0.05	0.27	0.86	0.44	1.30
45-49	0.55	0.30	0.85	0.19	0.03	0.22	0.74	0.33	1.07
50-54	0.44	0.23	0.67	0.16	0.04	0.20	0.61	0.26	0.87
55-59	0.33	0.17	0.50	0.12	0.03	0.15	0.45	0.19	0.65
60+	0.49	0.16	0.66	0.09	0.03	0.12	0.59	0.19	0.78
Total	6.30	3.40	9.69	1.93	0.42	2.36	8.23	3.82	12.05

Source: ibid

Projected Age-Sex UPSS Labour Force of Jharkhand in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.02
15-19	0.70	0.32	1.02	0.08	0.02	0.09	0.78	0.34	1.11
20-24	1.17	0.55	1.72	0.24	0.06	0.30	1.42	0.60	2.02
25-29	0.97	0.46	1.43	0.35	0.06	0.41	1.32	0.52	1.84
30-34	0.76	0.51	1.28	0.33	0.08	0.41	1.09	0.59	1.68
35-39	0.70	0.45	1.15	0.28	0.05	0.33	0.98	0.51	1.48
40-44	0.67	0.43	1.11	0.24	0.06	0.30	0.91	0.49	1.40
45-49	0.62	0.36	0.98	0.21	0.03	0.24	0.83	0.39	1.22
50-54	0.52	0.25	0.77	0.18	0.04	0.22	0.70	0.29	0.99
55-59	0.41	0.20	0.61	0.14	0.04	0.18	0.55	0.24	0.79
60+	0.63	0.20	0.83	0.11	0.04	0.15	0.74	0.24	0.98
Total	7.17	3.73	10.91	2.15	0.48	2.63	9.33	4.21	13.54

Source: ibid

Projected Age-Sex UPSS Labour Force of Jharkhand in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.64	0.32	0.96	0.06	0.01	0.07	0.70	0.33	1.03
20-24	1.28	0.61	1.88	0.23	0.06	0.29	1.51	0.67	2.18
25-29	1.27	0.60	1.87	0.37	0.07	0.44	1.64	0.67	2.31
30-34	0.95	0.58	1.54	0.38	0.10	0.48	1.34	0.68	2.02
35-39	0.74	0.45	1.20	0.34	0.06	0.40	1.08	0.51	1.59
40-44	0.68	0.45	1.13	0.28	0.07	0.34	0.96	0.51	1.47
45-49	0.65	0.40	1.05	0.23	0.03	0.26	0.88	0.43	1.31
50-54	0.59	0.30	0.89	0.20	0.05	0.25	0.79	0.35	1.14
55-59	0.48	0.25	0.73	0.16	0.04	0.20	0.64	0.29	0.93
60+	0.79	0.25	1.03	0.13	0.05	0.18	0.92	0.29	1.21
Total	8.08	4.20	12.28	2.37	0.54	2.91	10.45	4.74	15.19

Source: ibid

Projected Age-Sex UPSS Labour Force of Karnataka in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.17	0.18	0.36	0.01	0.01	0.02	0.19	0.19	0.38
15-19	1.19	0.79	1.98	0.44	0.14	0.58	1.63	0.93	2.56
20-24	1.67	0.93	2.60	0.83	0.32	1.15	2.50	1.25	3.75
25-29	1.49	0.97	2.46	1.00	0.33	1.33	2.49	1.30	3.79
30-34	1.28	1.08	2.36	0.92	0.29	1.21	2.20	1.38	3.58
35-39	1.16	1.07	2.23	0.80	0.30	1.10	1.96	1.37	3.33
40-44	1.11	0.99	2.10	0.70	0.23	0.94	1.81	1.23	3.03
45-49	0.98	0.75	1.73	0.61	0.17	0.78	1.59	0.92	2.51
50-54	0.80	0.53	1.33	0.47	0.13	0.59	1.27	0.65	1.92
55-59	0.60	0.39	0.98	0.30	0.08	0.39	0.90	0.47	1.37
60+	0.94	0.45	1.39	0.23	0.05	0.28	1.17	0.50	1.67
Total	11.39	8.13	19.53	6.31	2.05	8.36	17.70	10.19	27.89

Source: ibid

Projected Age-Sex UPSS Labour Force of Karnataka in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.10	0.08	0.18	0.00	0.00	0.00	0.10	0.08	0.18
15-19	1.07	0.68	1.75	0.41	0.12	0.53	1.48	0.81	2.29
20-24	1.76	0.94	2.70	0.85	0.36	1.21	2.61	1.30	3.91
25-29	1.70	1.02	2.72	1.10	0.33	1.43	2.79	1.36	4.15
30-34	1.42	1.14	2.56	1.06	0.34	1.40	2.49	1.47	3.96
35-39	1.21	1.15	2.36	0.95	0.33	1.28	2.17	1.48	3.64
40-44	1.12	1.10	2.22	0.80	0.27	1.07	1.92	1.37	3.29
45-49	1.04	0.91	1.95	0.70	0.19	0.89	1.74	1.10	2.84
50-54	0.90	0.65	1.54	0.56	0.15	0.71	1.45	0.80	2.25
55-59	0.73	0.49	1.22	0.38	0.10	0.48	1.11	0.59	1.70
60+	1.10	0.54	1.65	0.26	0.05	0.31	1.37	0.59	1.96
Total	12.15	8.71	20.85	7.09	2.23	9.32	19.23	10.94	30.17

Source: ibid

Projected Age-Sex UPSS Labour Force of Karnataka in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.03	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.03
15-19	0.92	0.56	1.49	0.39	0.10	0.50	1.32	0.67	1.98
20-24	1.61	0.85	2.45	0.87	0.38	1.25	2.48	1.22	3.70
25-29	1.80	1.11	2.91	1.15	0.38	1.53	2.96	1.49	4.44
30-34	1.64	1.27	2.91	1.15	0.36	1.51	2.78	1.63	4.42
35-39	1.35	1.22	2.58	1.09	0.37	1.46	2.45	1.59	4.04
40-44	1.18	1.20	2.38	0.94	0.31	1.25	2.12	1.51	3.63
45-49	1.05	1.01	2.06	0.80	0.22	1.02	1.85	1.23	3.08
50-54	0.95	0.78	1.73	0.64	0.19	0.82	1.59	0.97	2.56
55-59	0.82	0.62	1.44	0.45	0.12	0.57	1.27	0.75	2.02
60+	1.32	0.66	1.98	0.31	0.04	0.34	1.62	0.70	2.32
Total	12.68	9.28	21.96	7.79	2.47	10.26	20.47	11.76	32.22

Source: ibid

Projected Age-Sex UPSS Labour Force of Kerala in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.35	0.15	0.50	0.13	0.06	0.19	0.48	0.21	0.69
20-24	0.98	0.49	1.47	0.29	0.18	0.48	1.27	0.67	1.94
25-29	1.02	0.53	1.55	0.35	0.18	0.53	1.36	0.71	2.08
30-34	0.95	0.58	1.53	0.33	0.18	0.51	1.28	0.76	2.04
35-39	0.87	0.58	1.44	0.31	0.17	0.49	1.18	0.75	1.93
40-44	0.79	0.51	1.30	0.30	0.16	0.45	1.09	0.67	1.75
45-49	0.69	0.42	1.12	0.27	0.12	0.39	0.96	0.54	1.51
50-54	0.59	0.30	0.89	0.23	0.12	0.34	0.82	0.42	1.24
55-59	0.44	0.23	0.67	0.18	0.04	0.22	0.62	0.27	0.89
60+	0.70	0.29	0.99	0.22	0.09	0.31	0.92	0.38	1.30
Total	7.38	4.08	11.47	2.60	1.31	3.90	9.98	5.39	15.37

Source: ibid

Projected Age-Sex UPSS Labour Force of Kerala in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.29	0.10	0.39	0.11	0.06	0.17	0.40	0.16	0.56
20-24	0.96	0.44	1.39	0.27	0.18	0.45	1.23	0.61	1.84
25-29	1.07	0.50	1.57	0.34	0.18	0.52	1.41	0.68	2.09
30-34	1.02	0.58	1.61	0.34	0.18	0.53	1.37	0.77	2.13
35-39	0.93	0.60	1.53	0.33	0.18	0.51	1.26	0.78	2.04
40-44	0.84	0.55	1.39	0.31	0.17	0.48	1.15	0.71	1.87
45-49	0.75	0.47	1.22	0.29	0.13	0.42	1.04	0.60	1.65
50-54	0.65	0.33	0.98	0.24	0.14	0.38	0.89	0.46	1.36
55-59	0.51	0.26	0.77	0.20	0.04	0.24	0.71	0.30	1.01
60+	0.77	0.28	1.05	0.25	0.09	0.34	1.02	0.38	1.40
Total	7.79	4.11	11.90	2.69	1.34	4.03	10.48	5.45	15.93

Source: ibid

Projected Age-Sex UPSS Labour Force of Kerala in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.25	0.06	0.31	0.11	0.05	0.16	0.36	0.11	0.47
20-24	0.91	0.42	1.33	0.25	0.16	0.41	1.16	0.58	1.74
25-29	1.05	0.48	1.53	0.32	0.17	0.49	1.37	0.64	2.02
30-34	1.07	0.58	1.65	0.34	0.17	0.52	1.41	0.75	2.17
35-39	1.01	0.63	1.63	0.34	0.18	0.52	1.35	0.81	2.16
40-44	0.90	0.59	1.49	0.33	0.18	0.51	1.23	0.76	2.00
45-49	0.80	0.52	1.32	0.31	0.15	0.46	1.11	0.66	1.78
50-54	0.71	0.39	1.10	0.27	0.15	0.42	0.98	0.54	1.52
55-59	0.56	0.31	0.88	0.22	0.03	0.25	0.78	0.35	1.13
60+	0.87	0.28	1.15	0.29	0.10	0.38	1.16	0.38	1.54
Total	8.14	4.25	12.39	2.77	1.35	4.12	10.92	5.59	16.51

Source: ibid

Projected Age-Sex UPSS Labour Force of Maharashtra in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01
10-14	0.22	0.24	0.45	0.04	0.04	0.08	0.26	0.27	0.54
15-19	1.59	1.07	2.66	0.92	0.30	1.22	2.51	1.37	3.88
20-24	2.56	1.71	4.27	2.10	0.54	2.63	4.65	2.25	6.90
25-29	2.26	1.56	3.83	2.55	0.58	3.13	4.81	2.15	6.96
30-34	1.99	1.70	3.68	2.31	0.62	2.93	4.30	2.32	6.61
35-39	1.85	1.68	3.54	1.99	0.62	2.61	3.85	2.31	6.15
40-44	1.73	1.52	3.24	1.70	0.52	2.22	3.43	2.04	5.47
45-49	1.50	1.20	2.69	1.41	0.40	1.80	2.90	1.59	4.50
50-54	1.18	0.86	2.04	1.09	0.26	1.35	2.27	1.12	3.39
55-59	0.89	0.62	1.50	0.69	0.16	0.85	1.58	0.78	2.36
60+	1.62	1.22	2.84	0.48	0.17	0.65	2.10	1.39	3.49
Total	17.38	13.39	30.76	15.28	4.20	19.48	32.66	17.59	50.24

Source: ibid

Projected Age-Sex UPSS Labour Force of Maharashtra in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.07	0.09	0.16	0.02	0.03	0.05	0.09	0.12	0.21
15-19	1.33	0.85	2.17	0.90	0.30	1.21	2.23	1.15	3.38
20-24	2.64	1.73	4.37	2.29	0.64	2.93	4.93	2.38	7.30
25-29	2.63	1.64	4.27	2.87	0.71	3.58	5.50	2.36	7.86
30-34	2.23	1.68	3.91	2.65	0.72	3.37	4.88	2.40	7.28
35-39	1.95	1.73	3.68	2.33	0.75	3.08	4.28	2.48	6.76
40-44	1.80	1.63	3.43	1.98	0.62	2.60	3.78	2.26	6.03
45-49	1.66	1.45	3.11	1.65	0.46	2.11	3.32	1.91	5.23
50-54	1.40	1.06	2.46	1.33	0.34	1.67	2.73	1.40	4.13
55-59	1.08	0.77	1.85	0.88	0.20	1.08	1.96	0.97	2.93
60+	1.75	1.39	3.13	0.52	0.19	0.71	2.26	1.58	3.84
Total	18.53	14.03	32.57	17.42	4.96	22.38	35.95	19.00	54.94

Source: ibid

Projected Age-Sex UPSS Labour Force of Maharashtra in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.03	0.03
15-19	1.09	0.63	1.71	0.91	0.31	1.22	2.00	0.94	2.93
20-24	2.31	1.54	3.85	2.48	0.70	3.18	4.80	2.24	7.03
25-29	2.78	1.76	4.54	3.13	0.82	3.95	5.91	2.58	8.49
30-34	2.69	1.96	4.64	2.89	0.78	3.67	5.58	2.73	8.31
35-39	2.26	1.79	4.05	2.61	0.79	3.40	4.87	2.58	7.45
40-44	1.94	1.71	3.64	2.27	0.69	2.96	4.21	2.39	6.60
45-49	1.76	1.59	3.35	1.90	0.53	2.43	3.66	2.12	5.78
50-54	1.58	1.26	2.84	1.56	0.41	1.97	3.14	1.67	4.81
55-59	1.30	0.94	2.24	1.08	0.25	1.33	2.37	1.20	3.57
60+	1.97	1.61	3.58	0.57	0.21	0.78	2.54	1.82	4.36
Total	19.65	14.78	34.44	19.40	5.51	24.92	39.06	20.30	59.36

Source: ibid

Projected Age-Sex UPSS Labour Force of Madhya Pradesh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.09	0.20	0.29	0.04	0.02	0.06	0.13	0.22	0.35
15-19	1.54	1.04	2.57	0.40	0.10	0.49	1.93	1.13	3.07
20-24	2.13	1.00	3.13	0.75	0.18	0.92	2.87	1.18	4.05
25-29	1.81	1.08	2.89	0.88	0.19	1.07	2.69	1.27	3.96
30-34	1.63	1.20	2.83	0.76	0.19	0.95	2.39	1.39	3.78
35-39	1.51	1.16	2.67	0.67	0.20	0.87	2.19	1.36	3.55
40-44	1.35	1.00	2.35	0.60	0.16	0.76	1.95	1.16	3.11
45-49	1.11	0.71	1.82	0.51	0.13	0.64	1.62	0.85	2.46
50-54	0.84	0.54	1.38	0.39	0.09	0.49	1.23	0.63	1.87
55-59	0.64	0.39	1.03	0.26	0.05	0.31	0.90	0.44	1.33
60+	1.07	0.50	1.57	0.28	0.08	0.36	1.35	0.58	1.93
Total	13.73	8.81	22.55	5.53	1.39	6.92	19.26	10.21	29.47

Source: ibid

Projected Age-Sex UPSS Labour Force of Madhya Pradesh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.04	0.04	0.02	0.02	0.04	0.02	0.05	0.08
15-19	1.48	1.02	2.49	0.40	0.11	0.51	1.87	1.13	3.00
20-24	2.53	1.14	3.67	0.81	0.22	1.03	3.34	1.37	4.70
25-29	2.15	1.13	3.28	1.05	0.23	1.28	3.20	1.36	4.56
30-34	1.74	1.19	2.93	0.93	0.21	1.15	2.67	1.40	4.08
35-39	1.56	1.22	2.78	0.79	0.22	1.01	2.35	1.44	3.79
40-44	1.45	1.15	2.60	0.67	0.18	0.84	2.12	1.33	3.45
45-49	1.31	0.87	2.18	0.59	0.15	0.74	1.90	1.02	2.92
50-54	1.03	0.66	1.68	0.50	0.11	0.62	1.53	0.77	2.30
55-59	0.77	0.44	1.22	0.33	0.06	0.39	1.10	0.50	1.60
60+	1.20	0.57	1.77	0.33	0.10	0.43	1.53	0.66	2.19
Total	15.22	9.42	24.64	6.41	1.62	8.03	21.63	11.04	32.67

Source: ibid

Projected Age-Sex UPSS Labour Force of Madhya Pradesh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.02
15-19	1.33	0.90	2.23	0.39	0.11	0.50	1.72	1.01	2.73
20-24	2.65	1.15	3.81	0.80	0.24	1.04	3.45	1.39	4.85
25-29	2.61	1.37	3.98	1.15	0.27	1.42	3.77	1.64	5.41
30-34	2.08	1.30	3.39	1.10	0.25	1.35	3.18	1.55	4.73
35-39	1.68	1.22	2.90	0.95	0.25	1.20	2.63	1.47	4.10
40-44	1.52	1.21	2.73	0.77	0.19	0.95	2.28	1.40	3.68
45-49	1.42	0.99	2.41	0.65	0.16	0.81	2.07	1.16	3.22
50-54	1.22	0.81	2.03	0.59	0.14	0.73	1.81	0.95	2.76
55-59	0.95	0.53	1.49	0.40	0.07	0.47	1.35	0.61	1.96
60+	1.39	0.65	2.04	0.40	0.12	0.52	1.79	0.77	2.56
Total	16.85	10.15	27.00	7.21	1.81	9.02	24.06	11.96	36.02

Source: ibid

Projected Age-Sex UPSS Labour Force of Other NE States in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.04	0.02	0.06	0.00	0.01	0.01	0.04	0.02	0.07
15-19	0.25	0.16	0.40	0.02	0.02	0.05	0.27	0.18	0.45
20-24	0.42	0.28	0.69	0.08	0.05	0.13	0.50	0.33	0.83
25-29	0.43	0.24	0.67	0.13	0.06	0.19	0.56	0.30	0.86
30-34	0.37	0.23	0.60	0.13	0.05	0.18	0.50	0.28	0.78
35-39	0.34	0.18	0.52	0.12	0.05	0.16	0.46	0.23	0.68
40-44	0.30	0.16	0.47	0.11	0.04	0.14	0.41	0.20	0.61
45-49	0.25	0.14	0.40	0.09	0.03	0.12	0.34	0.18	0.52
50-54	0.20	0.11	0.31	0.07	0.02	0.09	0.27	0.13	0.40
55-59	0.15	0.08	0.23	0.05	0.02	0.06	0.20	0.10	0.29
60+	0.24	0.11	0.35	0.03	0.01	0.04	0.27	0.12	0.39
Total	2.99	1.71	4.70	0.83	0.35	1.18	3.82	2.06	5.88

Source: ibid

Projected Age-Sex UPSS Labour Force of Other NE States in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.05	0.01	0.05	0.00	0.01	0.01	0.05	0.01	0.06
15-19	0.25	0.15	0.40	0.02	0.02	0.05	0.27	0.17	0.44
20-24	0.48	0.33	0.81	0.09	0.05	0.14	0.57	0.38	0.95
25-29	0.52	0.29	0.81	0.15	0.07	0.22	0.67	0.36	1.03
30-34	0.43	0.27	0.70	0.15	0.06	0.21	0.58	0.33	0.91
35-39	0.37	0.22	0.58	0.13	0.05	0.19	0.50	0.27	0.77
40-44	0.33	0.20	0.53	0.12	0.04	0.16	0.45	0.24	0.69
45-49	0.29	0.18	0.48	0.10	0.04	0.14	0.39	0.22	0.62
50-54	0.24	0.15	0.39	0.08	0.03	0.11	0.32	0.18	0.50
55-59	0.19	0.11	0.30	0.06	0.02	0.08	0.25	0.13	0.38
60+	0.31	0.15	0.46	0.04	0.02	0.05	0.34	0.17	0.51
Total	3.44	2.06	5.50	0.94	0.41	1.36	4.39	2.47	6.86

Source: ibid

Projected Age-Sex UPSS Labour Force of Other NE States in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.04	0.00	0.04	0.00	0.01	0.01	0.04	0.01	0.05
15-19	0.23	0.14	0.37	0.02	0.03	0.05	0.26	0.16	0.42
20-24	0.47	0.33	0.80	0.09	0.06	0.15	0.56	0.39	0.95
25-29	0.59	0.34	0.93	0.16	0.08	0.24	0.75	0.42	1.17
30-34	0.51	0.33	0.84	0.17	0.07	0.24	0.68	0.39	1.08
35-39	0.42	0.25	0.67	0.15	0.06	0.22	0.58	0.31	0.89
40-44	0.36	0.23	0.59	0.13	0.05	0.18	0.49	0.28	0.78
45-49	0.32	0.22	0.54	0.12	0.05	0.16	0.43	0.27	0.70
50-54	0.28	0.19	0.47	0.10	0.04	0.14	0.38	0.23	0.60
55-59	0.22	0.16	0.38	0.07	0.03	0.10	0.30	0.18	0.48
60+	0.40	0.21	0.60	0.04	0.03	0.07	0.44	0.24	0.67
Total	3.85	2.40	6.25	1.06	0.49	1.54	4.90	2.89	7.79

Source: ibid

Projected Age-Sex UPSS Labour Force of Orissa in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01
10-14	0.16	0.14	0.30	0.01	0.01	0.02	0.17	0.15	0.32
15-19	1.13	0.75	1.89	0.12	0.05	0.16	1.25	0.80	2.05
20-24	1.34	0.67	2.01	0.25	0.07	0.32	1.59	0.74	2.33
25-29	1.26	0.70	1.96	0.32	0.09	0.41	1.58	0.79	2.37
30-34	1.19	0.74	1.93	0.29	0.08	0.36	1.47	0.82	2.29
35-39	1.12	0.73	1.84	0.26	0.06	0.32	1.38	0.79	2.16
40-44	1.03	0.65	1.68	0.23	0.08	0.31	1.27	0.73	1.99
45-49	0.88	0.51	1.39	0.20	0.05	0.25	1.08	0.56	1.63
50-54	0.69	0.37	1.06	0.16	0.04	0.19	0.85	0.41	1.26
55-59	0.51	0.21	0.72	0.08	0.02	0.10	0.59	0.23	0.82
60+	0.79	0.32	1.10	0.06	0.03	0.09	0.85	0.34	1.19
Total	10.11	5.80	15.90	1.97	0.57	2.54	12.07	6.37	18.44

Source: ibid

Projected Age-Sex UPSS Labour Force of Orissa in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.06	0.08	0.14	0.01	0.00	0.01	0.07	0.08	0.15
15-19	1.11	0.76	1.88	0.11	0.05	0.16	1.22	0.81	2.03
20-24	1.54	0.75	2.29	0.27	0.09	0.36	1.80	0.85	2.65
25-29	1.39	0.75	2.13	0.36	0.13	0.48	1.74	0.87	2.61
30-34	1.22	0.79	2.01	0.33	0.10	0.43	1.55	0.89	2.44
35-39	1.13	0.79	1.93	0.30	0.07	0.37	1.44	0.87	2.30
40-44	1.07	0.76	1.83	0.26	0.10	0.37	1.34	0.86	2.20
45-49	0.98	0.63	1.61	0.23	0.07	0.30	1.21	0.69	1.91
50-54	0.82	0.46	1.28	0.19	0.05	0.24	1.00	0.51	1.52
55-59	0.61	0.25	0.86	0.09	0.02	0.12	0.70	0.27	0.98
60+	0.86	0.37	1.22	0.06	0.04	0.10	0.92	0.41	1.33
Total	10.80	6.39	17.18	2.21	0.73	2.93	13.00	7.11	20.12

Source: ibid

Projected Age-Sex UPSS Labour Force of Orissa in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.02
15-19	1.01	0.71	1.72	0.10	0.05	0.15	1.10	0.76	1.87
20-24	1.55	0.73	2.27	0.27	0.10	0.37	1.82	0.82	2.64
25-29	1.59	0.83	2.41	0.38	0.14	0.52	1.97	0.97	2.94
30-34	1.35	0.87	2.22	0.37	0.11	0.48	1.71	0.99	2.70
35-39	1.17	0.85	2.02	0.34	0.08	0.42	1.52	0.93	2.45
40-44	1.10	0.84	1.94	0.30	0.13	0.43	1.40	0.97	2.37
45-49	1.03	0.74	1.76	0.26	0.07	0.33	1.28	0.81	2.09
50-54	0.92	0.57	1.50	0.22	0.06	0.28	1.14	0.64	1.77
55-59	0.73	0.30	1.03	0.10	0.03	0.13	0.83	0.33	1.16
60+	0.97	0.44	1.41	0.06	0.05	0.12	1.04	0.49	1.53
Total	11.42	6.90	18.31	2.40	0.83	3.23	13.82	7.73	21.55

Source: ibid

Projected Age-Sex UPSS Labour Force of Other States in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
15-19	0.05	0.03	0.08	0.27	0.04	0.31	0.32	0.07	0.39
20-24	0.17	0.05	0.22	0.90	0.12	1.02	1.07	0.17	1.24
25-29	0.16	0.05	0.21	0.96	0.17	1.13	1.12	0.22	1.34
30-34	0.13	0.04	0.17	0.83	0.16	0.99	0.96	0.20	1.16
35-39	0.11	0.02	0.14	0.80	0.15	0.95	0.91	0.18	1.09
40-44	0.08	0.02	0.11	0.66	0.15	0.81	0.75	0.17	0.91
45-49	0.07	0.02	0.08	0.50	0.08	0.58	0.57	0.09	0.66
50-54	0.05	0.02	0.07	0.35	0.02	0.37	0.40	0.04	0.44
55-59	0.03	0.01	0.04	0.20	0.02	0.22	0.23	0.02	0.26
60+	0.04	0.03	0.07	0.19	0.01	0.20	0.23	0.04	0.27
Total	0.89	0.29	1.18	5.67	0.92	6.59	6.56	1.21	7.77

Source: ibid

Projected Age-Sex UPSS Labour Force of Other States in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.05	0.04	0.09	0.29	0.04	0.33	0.34	0.08	0.42
20-24	0.21	0.07	0.27	1.10	0.15	1.25	1.30	0.22	1.52
25-29	0.18	0.06	0.24	1.17	0.20	1.37	1.35	0.26	1.62
30-34	0.14	0.04	0.18	1.02	0.16	1.18	1.17	0.20	1.37
35-39	0.12	0.02	0.14	1.01	0.19	1.20	1.13	0.21	1.34
40-44	0.09	0.03	0.12	0.85	0.20	1.04	0.94	0.22	1.16
45-49	0.07	0.02	0.09	0.65	0.09	0.74	0.72	0.11	0.83
50-54	0.05	0.03	0.08	0.44	0.02	0.46	0.49	0.05	0.53
55-59	0.03	0.01	0.04	0.23	0.02	0.25	0.26	0.02	0.29
60+	0.04	0.02	0.07	0.19	0.00	0.20	0.24	0.03	0.26
Total	0.99	0.33	1.32	6.95	1.07	8.01	7.94	1.40	9.34

Source: ibid

Projected Age-Sex UPSS Labour Force of Other States in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.04	0.04	0.08	0.27	0.04	0.31	0.31	0.07	0.39
20-24	0.24	0.07	0.31	1.26	0.16	1.43	1.50	0.23	1.73
25-29	0.20	0.06	0.26	1.33	0.22	1.55	1.53	0.28	1.81
30-34	0.15	0.04	0.20	1.16	0.18	1.35	1.31	0.23	1.54
35-39	0.13	0.02	0.15	1.17	0.23	1.40	1.30	0.25	1.55
40-44	0.10	0.02	0.12	1.00	0.23	1.23	1.10	0.25	1.35
45-49	0.08	0.02	0.10	0.77	0.10	0.87	0.85	0.12	0.96
50-54	0.05	0.02	0.08	0.51	0.01	0.52	0.56	0.04	0.60
55-59	0.04	0.00	0.04	0.27	0.02	0.29	0.30	0.02	0.33
60+	0.04	0.03	0.07	0.25	0.00	0.25	0.29	0.03	0.32
Total	1.08	0.33	1.41	7.98	1.18	9.16	9.06	1.51	10.57

Source: ibid

Projected Age-Sex UPSS Labour Force of Punjab in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.02	0.01	0.03	0.02	0.00	0.02	0.04	0.01	0.05
15-19	0.50	0.22	0.72	0.21	0.04	0.24	0.70	0.26	0.96
20-24	0.79	0.34	1.14	0.50	0.11	0.61	1.29	0.45	1.74
25-29	0.70	0.31	1.01	0.52	0.12	0.64	1.22	0.43	1.65
30-34	0.60	0.34	0.93	0.44	0.10	0.54	1.04	0.43	1.47
35-39	0.54	0.35	0.89	0.38	0.09	0.47	0.92	0.44	1.35
40-44	0.50	0.31	0.81	0.34	0.09	0.43	0.84	0.40	1.24
45-49	0.44	0.25	0.69	0.30	0.05	0.35	0.74	0.30	1.04
50-54	0.35	0.17	0.52	0.23	0.06	0.29	0.59	0.23	0.81
55-59	0.27	0.14	0.40	0.16	0.03	0.19	0.43	0.16	0.59
60+	0.50	0.20	0.70	0.15	0.03	0.18	0.65	0.23	0.88
Total	5.19	2.64	7.83	3.25	0.71	3.96	8.45	3.35	11.79

Source: ibid

Projected Age-Sex UPSS Labour Force of Punjab in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
15-19	0.41	0.17	0.58	0.19	0.03	0.22	0.59	0.21	0.80
20-24	0.80	0.34	1.14	0.54	0.13	0.67	1.34	0.47	1.81
25-29	0.76	0.32	1.08	0.62	0.15	0.77	1.38	0.47	1.85
30-34	0.67	0.35	1.02	0.55	0.12	0.67	1.23	0.47	1.70
35-39	0.56	0.37	0.93	0.47	0.10	0.57	1.03	0.47	1.50
40-44	0.51	0.34	0.84	0.39	0.10	0.49	0.90	0.43	1.33
45-49	0.48	0.29	0.77	0.34	0.06	0.40	0.82	0.35	1.17
50-54	0.41	0.21	0.63	0.28	0.07	0.35	0.69	0.28	0.97
55-59	0.32	0.17	0.50	0.21	0.04	0.25	0.54	0.21	0.75
60+	0.54	0.23	0.78	0.17	0.03	0.20	0.71	0.27	0.98
Total	5.46	2.80	8.26	3.78	0.83	4.61	9.24	3.63	12.87

Source: ibid

Projected Age-Sex UPSS Labour Force of Punjab in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
15-19	0.30	0.13	0.43	0.17	0.03	0.20	0.47	0.15	0.62
20-24	0.71	0.28	0.99	0.58	0.14	0.71	1.29	0.42	1.71
25-29	0.78	0.31	1.09	0.69	0.17	0.86	1.47	0.48	1.95
30-34	0.76	0.38	1.14	0.64	0.13	0.77	1.40	0.52	1.92
35-39	0.65	0.39	1.04	0.57	0.12	0.69	1.22	0.51	1.73
40-44	0.54	0.36	0.90	0.47	0.11	0.57	1.01	0.46	1.47
45-49	0.49	0.32	0.81	0.38	0.07	0.44	0.87	0.38	1.25
50-54	0.45	0.25	0.71	0.31	0.08	0.39	0.77	0.33	1.10
55-59	0.38	0.21	0.59	0.25	0.05	0.30	0.63	0.26	0.89
60+	0.61	0.28	0.89	0.20	0.04	0.24	0.81	0.32	1.13
Total	5.68	2.91	8.59	4.26	0.93	5.19	9.94	3.84	13.78

Source: ibid

Projected Age-Sex UPSS Labour Force of Rajasthan in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.14	0.32	0.46	0.07	0.02	0.09	0.21	0.34	0.55
15-19	1.38	1.22	2.60	0.31	0.13	0.45	1.70	1.35	3.04
20-24	2.10	1.33	3.43	0.65	0.19	0.84	2.75	1.52	4.28
25-29	1.77	1.22	2.99	0.70	0.19	0.89	2.47	1.41	3.88
30-34	1.54	1.17	2.71	0.61	0.19	0.80	2.15	1.36	3.52
35-39	1.40	1.12	2.52	0.53	0.18	0.70	1.93	1.29	3.22
40-44	1.25	0.93	2.19	0.47	0.15	0.62	1.72	1.09	2.81
45-49	1.05	0.75	1.80	0.40	0.12	0.51	1.45	0.87	2.32
50-54	0.84	0.55	1.38	0.31	0.07	0.38	1.14	0.62	1.76
55-59	0.62	0.37	0.99	0.20	0.05	0.25	0.83	0.41	1.24
60+	0.96	0.45	1.41	0.17	0.05	0.22	1.13	0.50	1.62
Total	13.06	9.42	22.48	4.42	1.34	5.76	17.48	10.76	28.24

Source: ibid

Projected Age-Sex UPSS Labour Force of Rajasthan in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.09	0.09	0.06	0.00	0.06	0.06	0.10	0.16
15-19	1.33	1.23	2.56	0.30	0.12	0.42	1.63	1.35	2.99
20-24	2.56	1.60	4.16	0.72	0.22	0.94	3.27	1.83	5.10
25-29	2.16	1.34	3.50	0.81	0.22	1.03	2.97	1.56	4.53
30-34	1.72	1.24	2.97	0.74	0.24	0.97	2.46	1.48	3.94
35-39	1.50	1.22	2.72	0.62	0.20	0.81	2.11	1.42	3.53
40-44	1.36	1.06	2.42	0.53	0.17	0.70	1.88	1.23	3.12
45-49	1.21	0.91	2.12	0.46	0.14	0.59	1.67	1.05	2.71
50-54	1.00	0.67	1.66	0.38	0.09	0.47	1.38	0.76	2.13
55-59	0.76	0.44	1.20	0.27	0.07	0.34	1.03	0.51	1.54
60+	1.12	0.52	1.64	0.19	0.05	0.24	1.30	0.57	1.88
Total	14.72	10.33	25.04	5.06	1.53	6.59	19.77	11.86	31.63

Source: ibid

Projected Age-Sex UPSS Labour Force of Rajasthan in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.06	0.00	0.06	0.06	0.00	0.06
15-19	1.17	1.12	2.28	0.28	0.11	0.39	1.45	1.22	2.67
20-24	2.79	1.79	4.58	0.73	0.24	0.97	3.52	2.02	5.55
25-29	2.69	1.69	4.38	0.89	0.25	1.14	3.58	1.94	5.52
30-34	2.12	1.43	3.55	0.85	0.27	1.12	2.97	1.70	4.67
35-39	1.69	1.30	2.98	0.73	0.22	0.96	2.42	1.52	3.94
40-44	1.45	1.15	2.60	0.61	0.19	0.80	2.07	1.34	3.41
45-49	1.31	1.04	2.36	0.51	0.16	0.66	1.82	1.20	3.02
50-54	1.15	0.81	1.96	0.43	0.11	0.54	1.58	0.92	2.50
55-59	0.91	0.54	1.44	0.33	0.09	0.42	1.23	0.63	1.86
60+	1.32	0.60	1.92	0.21	0.06	0.27	1.52	0.66	2.19
Total	16.61	11.45	28.06	5.61	1.71	7.32	22.22	13.16	35.38

Source: ibid

Projected Age-Sex UPSS Labour Force of Tamil Nadu in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.01	0.01	0.02	0.03	0.06	0.02	0.04	0.06
15-19	0.67	0.65	1.31	0.59	0.29	0.88	1.25	0.94	2.19
20-24	1.22	0.76	1.98	1.46	0.57	2.03	2.68	1.33	4.01
25-29	1.25	0.76	2.02	1.57	0.59	2.17	2.83	1.36	4.18
30-34	1.19	0.94	2.13	1.44	0.64	2.08	2.63	1.58	4.21
35-39	1.09	0.93	2.02	1.32	0.55	1.87	2.41	1.47	3.89
40-44	1.05	0.94	1.99	1.16	0.44	1.60	2.21	1.38	3.59
45-49	0.95	0.80	1.75	1.00	0.37	1.38	1.96	1.17	3.13
50-54	0.82	0.61	1.43	0.82	0.29	1.11	1.63	0.90	2.54
55-59	0.63	0.47	1.10	0.56	0.17	0.73	1.19	0.64	1.83
60+	1.04	0.65	1.69	0.49	0.19	0.69	1.54	0.84	2.38
Total	9.91	7.51	17.43	10.44	4.15	14.59	20.36	11.66	32.02

Source: ibid

Projected Age-Sex UPSS Labour Force of Tamil Nadu in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
15-19	0.45	0.47	0.92	0.55	0.28	0.83	1.00	0.75	1.75
20-24	0.89	0.54	1.42	1.64	0.67	2.30	2.52	1.20	3.73
25-29	1.10	0.49	1.60	1.83	0.69	2.52	2.93	1.18	4.12
30-34	1.15	0.83	1.98	1.66	0.77	2.42	2.81	1.60	4.41
35-39	1.04	0.92	1.95	1.54	0.69	2.23	2.58	1.60	4.18
40-44	0.99	0.96	1.95	1.34	0.50	1.84	2.33	1.46	3.79
45-49	0.96	0.90	1.85	1.18	0.46	1.64	2.14	1.36	3.49
50-54	0.87	0.70	1.57	0.95	0.35	1.30	1.82	1.05	2.87
55-59	0.71	0.54	1.26	0.69	0.20	0.89	1.40	0.75	2.15
60+	1.14	0.78	1.92	0.56	0.22	0.77	1.69	0.99	2.69
Total	9.30	7.13	16.42	11.93	4.83	16.77	21.23	11.96	33.19

Source: ibid

Projected Age-Sex UPSS Labour Force of Tamil Nadu in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.25	0.31	0.56	0.51	0.28	0.79	0.77	0.58	1.35
20-24	0.46	0.28	0.75	1.87	0.75	2.61	2.33	1.03	3.36
25-29	0.86	0.21	1.08	2.02	0.80	2.82	2.89	1.01	3.90
30-34	1.08	0.65	1.74	1.83	0.83	2.66	2.91	1.48	4.39
35-39	1.03	0.88	1.90	1.74	0.76	2.49	2.76	1.63	4.39
40-44	0.97	0.99	1.96	1.52	0.57	2.09	2.50	1.56	4.06
45-49	0.92	0.93	1.85	1.34	0.53	1.86	2.26	1.46	3.71
50-54	0.88	0.78	1.66	1.10	0.41	1.51	1.98	1.19	3.17
55-59	0.77	0.61	1.38	0.80	0.24	1.04	1.57	0.85	2.42
60+	1.26	0.93	2.19	0.63	0.24	0.88	1.89	1.18	3.07
Total	8.50	6.57	15.07	13.36	5.39	18.75	21.85	11.97	33.82

Source: ibid

Projected Age-Sex UPSS Labour Force of Uttar Pradesh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.02	0.02	0.04	0.02	0.01	0.04	0.04	0.03	0.07
10-14	0.68	0.51	1.18	0.24	0.09	0.33	0.92	0.60	1.52
15-19	4.52	1.96	6.48	1.02	0.23	1.25	5.54	2.19	7.73
20-24	5.98	1.48	7.46	1.79	0.23	2.02	7.77	1.71	9.48
25-29	5.11	1.72	6.83	1.79	0.28	2.07	6.90	2.00	8.90
30-34	4.40	2.08	6.49	1.53	0.23	1.76	5.93	2.31	8.24
35-39	4.05	2.09	6.14	1.30	0.24	1.54	5.35	2.33	7.68
40-44	3.67	1.87	5.54	1.17	0.26	1.43	4.85	2.12	6.97
45-49	3.12	1.51	4.63	1.02	0.22	1.23	4.14	1.72	5.87
50-54	2.54	1.14	3.68	0.85	0.16	1.01	3.38	1.30	4.68
55-59	1.97	0.83	2.79	0.56	0.11	0.67	2.53	0.94	3.47
60+	3.84	1.46	5.30	0.56	0.13	0.68	4.39	1.59	5.98
Total	39.89	16.67	56.56	11.85	2.17	14.03	51.74	18.84	70.58

Source: ibid

Projected Age-Sex UPSS Labour Force of Uttar Pradesh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.03	0.01	0.04	0.03	0.01	0.04
10-14	0.30	0.26	0.56	0.21	0.03	0.24	0.50	0.30	0.80
15-19	4.40	2.16	6.56	0.91	0.24	1.16	5.31	2.41	7.72
20-24	7.44	1.89	9.34	1.94	0.30	2.24	9.39	2.19	11.58
25-29	6.36	1.92	8.28	2.16	0.34	2.50	8.52	2.27	10.78
30-34	4.90	2.14	7.05	1.96	0.28	2.24	6.86	2.43	9.29
35-39	4.20	2.27	6.47	1.58	0.27	1.85	5.78	2.54	8.32
40-44	3.85	2.18	6.03	1.30	0.29	1.59	5.15	2.47	7.62
45-49	3.51	1.88	5.39	1.13	0.23	1.36	4.64	2.11	6.74
50-54	2.93	1.44	4.37	1.01	0.19	1.20	3.93	1.63	5.57
55-59	2.30	1.05	3.35	0.71	0.15	0.86	3.01	1.20	4.21
60+	4.38	1.81	6.19	0.64	0.16	0.81	5.02	1.98	7.00
Total	44.57	19.02	63.59	13.57	2.51	16.08	58.14	21.53	79.67

Source: ibid

Projected Age-Sex UPSS Labour Force of Uttar Pradesh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.04	0.00	0.04	0.04	0.00	0.04
10-14	0.00	0.02	0.02	0.22	0.00	0.22	0.22	0.02	0.24
15-19	3.79	2.11	5.90	0.81	0.23	1.04	4.60	2.34	6.93
20-24	7.80	2.15	9.96	1.86	0.30	2.16	9.67	2.45	12.12
25-29	8.11	2.54	10.65	2.35	0.39	2.74	10.46	2.93	13.39
30-34	6.15	2.44	8.59	2.37	0.34	2.71	8.52	2.78	11.30
35-39	4.69	2.33	7.02	1.98	0.32	2.30	6.68	2.64	9.32
40-44	4.03	2.30	6.33	1.56	0.32	1.88	5.58	2.62	8.21
45-49	3.69	2.15	5.84	1.23	0.25	1.49	4.93	2.40	7.33
50-54	3.30	1.72	5.02	1.12	0.22	1.34	4.42	1.94	6.36
55-59	2.68	1.26	3.94	0.84	0.18	1.02	3.51	1.45	4.96
60+	5.07	2.26	7.33	0.75	0.20	0.95	5.82	2.46	8.29
Total	49.32	21.28	70.60	15.12	2.76	17.89	64.45	24.04	88.49

Source: ibid

Projected Age-Sex UPSS Labour Force of Uttarakhand in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.03	0.01	0.04	0.00	0.00	0.00	0.03	0.01	0.04
15-19	0.20	0.16	0.36	0.05	0.01	0.06	0.25	0.17	0.41
20-24	0.30	0.22	0.52	0.11	0.02	0.13	0.41	0.24	0.66
25-29	0.25	0.19	0.44	0.12	0.02	0.14	0.37	0.22	0.58
30-34	0.20	0.17	0.37	0.11	0.02	0.13	0.31	0.20	0.51
35-39	0.18	0.15	0.33	0.10	0.02	0.12	0.28	0.18	0.45
40-44	0.16	0.13	0.29	0.09	0.01	0.10	0.25	0.14	0.39
45-49	0.14	0.11	0.26	0.07	0.02	0.09	0.22	0.13	0.35
50-54	0.12	0.10	0.22	0.06	0.01	0.07	0.18	0.11	0.29
55-59	0.09	0.09	0.18	0.04	0.01	0.05	0.14	0.10	0.23
60+	0.20	0.16	0.36	0.03	0.01	0.04	0.23	0.17	0.40
Total	1.88	1.50	3.38	0.79	0.17	0.96	2.67	1.67	4.33

Source: ibid

Projected Age-Sex UPSS Labour Force of Uttarakhand in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02
15-19	0.18	0.15	0.33	0.04	0.01	0.05	0.22	0.16	0.39
20-24	0.35	0.24	0.59	0.12	0.03	0.14	0.46	0.27	0.73
25-29	0.32	0.22	0.53	0.14	0.03	0.17	0.46	0.25	0.70
30-34	0.24	0.20	0.43	0.14	0.03	0.16	0.37	0.22	0.60
35-39	0.19	0.17	0.36	0.11	0.03	0.14	0.30	0.20	0.50
40-44	0.17	0.14	0.31	0.10	0.01	0.11	0.27	0.16	0.43
45-49	0.16	0.13	0.29	0.08	0.02	0.11	0.24	0.15	0.39
50-54	0.13	0.12	0.25	0.07	0.01	0.09	0.21	0.13	0.34
55-59	0.11	0.10	0.21	0.05	0.01	0.07	0.16	0.11	0.28
60+	0.22	0.18	0.40	0.05	0.01	0.06	0.27	0.19	0.47
Total	2.07	1.65	3.73	0.91	0.20	1.11	2.99	1.85	4.84

Source: ibid

Projected Age-Sex UPSS Labour Force of Uttarakhand in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.15	0.14	0.29	0.04	0.01	0.05	0.19	0.15	0.34
20-24	0.34	0.23	0.58	0.12	0.03	0.14	0.46	0.26	0.72
25-29	0.37	0.24	0.61	0.15	0.03	0.18	0.51	0.27	0.79
30-34	0.31	0.23	0.53	0.16	0.03	0.19	0.46	0.26	0.72
35-39	0.23	0.19	0.42	0.14	0.03	0.17	0.37	0.23	0.60
40-44	0.18	0.16	0.34	0.11	0.02	0.13	0.30	0.17	0.47
45-49	0.16	0.14	0.31	0.09	0.03	0.12	0.26	0.17	0.43
50-54	0.15	0.13	0.28	0.08	0.02	0.10	0.23	0.15	0.38
55-59	0.12	0.12	0.24	0.07	0.01	0.08	0.19	0.13	0.32
60+	0.25	0.21	0.46	0.08	0.02	0.09	0.33	0.23	0.56
Total	2.26	1.79	4.05	1.03	0.22	1.25	3.29	2.01	5.30

Source: ibid

Projected Age-Sex UPSS Labour Force of West Bengal in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.02
10-14	0.22	0.18	0.40	0.10	0.06	0.16	0.32	0.24	0.55
15-19	1.94	0.63	2.57	0.42	0.19	0.61	2.36	0.82	3.17
20-24	2.68	0.63	3.31	0.94	0.33	1.27	3.62	0.96	4.58
25-29	2.47	0.75	3.22	1.12	0.27	1.39	3.59	1.03	4.61
30-34	2.32	0.89	3.21	1.09	0.25	1.34	3.41	1.14	4.55
35-39	2.21	0.80	3.01	1.03	0.26	1.28	3.24	1.06	4.30
40-44	2.01	0.60	2.61	0.96	0.21	1.17	2.97	0.81	3.78
45-49	1.67	0.45	2.12	0.87	0.11	0.98	2.53	0.57	3.10
50-54	1.25	0.30	1.55	0.72	0.10	0.82	1.97	0.40	2.37
55-59	0.89	0.09	0.98	0.53	0.07	0.60	1.41	0.16	1.58
60+	1.22	0.17	1.39	0.38	0.03	0.41	1.59	0.21	1.80
Total	18.86	5.49	24.36	8.16	1.91	10.07	27.02	7.40	34.42

Source: ibid

Projected Age-Sex UPSS Labour Force of West Bengal in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.02	0.03
10-14	0.09	0.13	0.22	0.08	0.05	0.13	0.18	0.18	0.35
15-19	1.87	0.60	2.47	0.36	0.17	0.53	2.22	0.78	3.00
20-24	3.11	0.69	3.80	0.93	0.37	1.31	4.04	1.06	5.11
25-29	2.83	0.77	3.60	1.19	0.30	1.49	4.02	1.08	5.09
30-34	2.42	0.90	3.33	1.17	0.28	1.45	3.59	1.19	4.78
35-39	2.27	0.86	3.13	1.10	0.27	1.37	3.36	1.13	4.49
40-44	2.15	0.66	2.82	1.02	0.24	1.26	3.17	0.90	4.07
45-49	1.93	0.56	2.50	0.94	0.13	1.07	2.88	0.69	3.57
50-54	1.55	0.34	1.89	0.82	0.12	0.94	2.37	0.46	2.83
55-59	1.14	0.06	1.19	0.65	0.09	0.74	1.78	0.15	1.93
60+	1.45	0.18	1.63	0.41	0.02	0.43	1.86	0.20	2.07
Total	20.81	5.77	26.58	8.67	2.07	10.74	29.48	7.84	37.32

Source: ibid

Projected Age-Sex UPSS Labour Force of West Bengal in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.02	0.03	0.01	0.02	0.03
10-14	0.00	0.08	0.08	0.08	0.04	0.12	0.08	0.12	0.20
15-19	1.68	0.53	2.21	0.30	0.16	0.46	1.97	0.69	2.67
20-24	3.12	0.66	3.78	0.86	0.36	1.22	3.98	1.02	5.00
25-29	3.30	0.89	4.19	1.20	0.32	1.52	4.50	1.21	5.71
30-34	2.79	0.97	3.76	1.23	0.30	1.53	4.02	1.27	5.29
35-39	2.38	0.86	3.24	1.17	0.28	1.45	3.55	1.14	4.69
40-44	2.22	0.74	2.96	1.08	0.25	1.34	3.30	0.99	4.29
45-49	2.08	0.66	2.74	1.00	0.13	1.13	3.08	0.79	3.87
50-54	1.81	0.39	2.20	0.90	0.14	1.03	2.71	0.53	3.23
55-59	1.42	0.00	1.42	0.74	0.11	0.86	2.16	0.11	2.27
60+	1.79	0.19	1.98	0.45	0.00	0.45	2.23	0.20	2.43
Total	22.59	5.97	28.56	9.01	2.12	11.13	31.60	8.09	39.69

Source: ibid

Projected Age-Sex UPSS Labour Force of India in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.04	0.05	0.09	0.04	0.04	0.08	0.08	0.08	0.17
10-14	2.55	2.63	5.19	0.83	0.40	1.23	3.38	3.04	6.42
15-19	23.69	13.10	36.79	6.67	2.12	8.79	30.37	15.21	45.58
20-24	33.67	15.24	48.91	14.11	3.69	17.80	47.77	18.93	66.70
25-29	30.10	15.57	45.67	15.91	3.87	19.78	46.01	19.43	65.45
30-34	26.93	17.01	43.95	14.33	3.92	18.25	41.26	20.94	62.20
35-39	25.00	16.49	41.49	12.74	3.73	16.48	37.74	20.23	57.96
40-44	22.88	14.51	37.39	11.27	3.28	14.54	34.15	17.79	51.94
45-49	19.51	11.46	30.97	9.62	2.42	12.04	29.13	13.88	43.01
50-54	15.59	8.41	24.00	7.57	1.80	9.36	23.16	10.20	33.36
55-59	11.70	5.86	17.56	4.97	1.10	6.06	16.67	6.96	23.62
60+	19.16	8.11	27.27	4.26	1.18	5.44	23.42	9.29	32.71
Total	230.84	128.44	359.27	102.31	27.55	129.86	333.15	155.98	489.13

Source: ibid

Projected Age-Sex UPSS Labour Force of India in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.01	0.04	0.03	0.08	0.05	0.04	0.08
10-14	0.83	1.10	1.94	0.57	0.23	0.80	1.41	1.33	2.74
15-19	22.38	12.37	34.76	6.24	2.03	8.26	28.62	14.40	43.02
20-24	38.74	16.65	55.39	15.25	4.30	19.55	53.99	20.95	74.94
25-29	35.05	16.27	51.32	18.21	4.54	22.76	53.26	20.82	74.08
30-34	29.17	17.36	46.53	16.85	4.58	21.43	46.02	21.94	67.96
35-39	25.89	17.54	43.44	14.86	4.37	19.24	40.76	21.91	62.67
40-44	23.97	16.25	40.22	12.78	3.75	16.53	36.75	20.00	56.75
45-49	21.85	13.73	35.58	11.09	2.82	13.91	32.93	16.55	49.49
50-54	18.20	10.16	28.36	9.05	2.19	11.24	27.25	12.35	39.60
55-59	14.08	7.04	21.11	6.25	1.37	7.62	20.33	8.40	28.73
60+	21.83	9.53	31.35	4.87	1.31	6.18	26.70	10.83	37.53
Total	251.99	138.01	390.00	116.08	31.51	147.58	368.06	169.52	537.58

Source: ibid

Projected Age-Sex UPSS Labour Force of India in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.05	0.03	0.08	0.05	0.03	0.08
10-14	0.10	0.21	0.32	0.48	0.14	0.62	0.58	0.35	0.93
15-19	19.55	10.71	30.26	5.84	1.92	7.76	25.39	12.62	38.02
20-24	38.88	16.45	55.33	15.76	4.49	20.25	54.64	20.94	75.58
25-29	40.99	18.54	59.52	19.70	5.08	24.78	60.69	23.62	84.30
30-34	34.34	18.98	53.32	18.95	5.04	23.99	53.28	24.03	77.31
35-39	28.26	18.13	46.39	17.20	4.80	22.00	45.46	22.93	68.39
40-44	25.05	17.38	42.43	14.67	4.18	18.85	39.71	21.57	61.28
45-49	23.05	15.43	38.48	12.39	3.18	15.57	35.44	18.61	54.05
50-54	20.52	12.11	32.63	10.32	2.58	12.91	30.85	14.69	45.54
55-59	16.58	8.42	25.00	7.40	1.69	9.08	23.98	10.11	34.09
60+	25.40	11.33	36.73	5.66	1.52	7.17	31.06	12.85	43.91
Total	272.72	147.68	420.40	128.41	34.64	163.04	401.12	182.32	583.44

Source: ibid

Annex 5.3: State-wise MCWS Labour Force by Sector and Sex as on 1st April of 2007, 2012 and 2017.

Table 1: State-wise MCWS Labour Force Projections for 2007

State/Union Territory	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	17.70	12.12	29.82	6.77	2.45	9.22	24.47	14.57	39.04
Assam	7.00	1.64	8.64	1.31	0.19	1.50	8.31	1.83	10.14
Bihar	21.45	4.36	25.81	2.59	0.34	2.93	24.04	4.70	28.73
Gujarat	10.25	5.79	16.04	7.01	1.50	8.51	17.26	7.29	24.55
Haryana	4.48	2.22	6.69	2.31	0.42	2.73	6.79	2.64	9.43
Himachal Pradesh	1.66	1.25	2.91	0.24	0.07	0.32	1.90	1.32	3.22
Jammu & Kashmir	2.36	0.80	3.16	0.95	0.16	1.11	3.31	0.95	4.26
Karnataka	10.96	6.76	17.72	6.21	1.77	7.98	17.17	8.53	25.69
Kerala	6.94	3.17	10.11	2.43	1.13	3.56	9.38	4.30	13.67
Madhya Pradesh	13.21	6.39	19.60	5.44	1.15	6.60	18.65	7.54	26.20
Maharashtra	16.66	10.24	26.90	15.14	4.11	19.26	31.80	14.35	46.15
Orissa	9.53	3.65	13.18	1.92	0.45	2.37	11.46	4.10	15.55
Punjab	5.13	2.79	7.92	3.24	0.63	3.87	8.37	3.42	11.79
Rajasthan	12.84	7.78	20.62	4.38	1.11	5.49	17.22	8.88	26.11
Tamil Nadu	9.67	7.08	16.75	10.31	3.75	14.06	19.98	10.83	30.81
Uttar Pradesh	38.28	13.44	51.72	11.69	1.84	13.52	49.97	15.27	65.24
West Bengal	18.28	4.01	22.29	8.04	1.66	9.71	26.32	5.67	31.99
Jharkhand	6.05	1.97	8.01	1.87	0.35	2.22	7.92	2.31	10.23
Chhattisgarh	4.83	3.84	8.67	1.47	0.36	1.84	6.30	4.21	10.51
Uttarakhand	1.73	1.13	2.86	0.79	0.15	0.93	2.51	1.28	3.80
Other NE States	2.91	1.50	4.41	0.82	0.33	1.15	3.73	1.84	5.56
Other states	0.88	0.20	1.08	5.66	0.89	6.55	6.54	1.09	7.63
Total	222.79	102.11	324.91	100.61	24.80	125.41	323.40	126.91	450.32

Source: ibid

Table 2: State-wise MCWS Labour Force Projections for 2012

State/Union	Rural			Urban			Total		
Territory	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	19.10	13.21	32.31	7.28	2.83	10.11	26.38	16.04	42.42
Assam	7.82	1.96	9.78	1.54	0.24	1.79	9.36	2.20	11.56
Bihar	24.23	4.55	28.77	2.93	0.39	3.31	27.15	4.93	32.08
Gujarat	11.22	6.49	17.71	8.06	1.72	9.78	19.28	8.21	27.49
Haryana	4.94	2.79	7.73	2.76	0.52	3.28	7.70	3.31	11.01
Himachal Pradesh	1.78	1.38	3.17	0.28	0.09	0.37	2.06	1.47	3.53
Jammu & Kashmir	2.54	0.84	3.38	1.10	0.16	1.26	3.64	1.00	4.63
Karnataka	11.74	7.45	19.19	7.02	2.00	9.02	18.76	9.45	28.21
Kerala	7.36	3.41	10.78	2.53	1.23	3.76	9.90	4.64	14.54
Madhya Pradesh	14.70	6.79	21.49	6.34	1.36	7.70	21.04	8.15	29.19
Maharashtra	17.92	11.25	29.17	17.31	4.97	22.27	35.23	16.22	51.45
Orissa	10.10	3.97	14.07	2.15	0.56	2.71	12.25	4.53	16.78
Punjab	5.41	3.40	8.81	3.77	0.76	4.53	9.18	4.16	13.35
Rajasthan	14.54	8.64	23.18	5.03	1.31	6.35	19.57	9.96	29.53
Tamil Nadu	9.09	7.12	16.21	11.81	4.54	16.36	20.90	11.66	32.57
Uttar Pradesh	43.01	16.02	59.04	13.44	2.16	15.60	56.46	18.18	74.64
West Bengal	20.21	4.56	24.77	8.55	1.79	10.34	28.76	6.35	35.11
Jharkhand	6.87	2.25	9.12	2.08	0.40	2.47	8.94	2.65	11.59
Chhattisgarh	5.26	4.09	9.35	1.72	0.45	2.17	6.98	4.54	11.52
Uttarakhand	1.90	1.26	3.17	0.91	0.17	1.08	2.81	1.44	4.25
Other NE States	3.35	1.81	5.17	0.93	0.39	1.32	4.29	2.20	6.49
Other states	0.99	0.26	1.25	6.94	1.04	7.99	7.93	1.31	9.24
Total	244.08	113.52	357.61	114.49	29.08	143.57	358.57	142.60	501.17

Source: ibid

Table 3: State-wise MCWS Labour Force Projections for 2017

State/Union Territory	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	20.25	13.95	34.20	7.66	3.15	10.81	27.91	17.10	45.01
Assam	8.63	2.28	10.91	1.75	0.27	2.03	10.38	2.56	12.94
Bihar	27.11	4.78	31.89	3.21	0.44	3.65	30.32	5.22	35.54
Gujarat	12.06	7.22	19.28	8.98	1.94	10.92	21.04	9.15	30.20
Haryana	5.34	3.40	8.74	3.21	0.61	3.82	8.55	4.01	12.57
Himachal Pradesh	1.91	1.47	3.38	0.31	0.09	0.41	2.22	1.57	3.79
Jammu & Kashmir	2.78	0.91	3.69	1.22	0.17	1.39	4.00	1.08	5.07
Karnataka	12.25	8.13	20.38	7.71	2.20	9.92	19.97	10.33	30.29
Kerala	7.68	3.51	11.19	2.60	1.31	3.91	10.28	4.82	15.10
Madhya Pradesh	16.28	7.29	23.57	7.15	1.52	8.67	23.43	8.81	32.24
Maharashtra	19.04	12.17	31.20	19.28	5.83	25.12	38.32	18.00	56.32
Orissa	10.76	4.25	15.00	2.35	0.64	2.99	13.11	4.89	18.00
Punjab	5.64	4.02	9.66	4.24	0.84	5.09	9.88	4.86	14.74
Rajasthan	16.44	9.59	26.03	5.59	1.46	7.05	22.03	11.05	33.08
Tamil Nadu	8.36	7.00	15.36	13.23	5.07	18.29	21.59	12.07	33.65
Uttar Pradesh	47.97	18.81	66.78	15.03	2.35	17.38	63.00	21.17	84.16
West Bengal	21.94	4.99	26.93	8.88	1.84	10.72	30.83	6.83	37.65
Jharkhand	7.71	4.07	11.78	2.28	0.54	2.82	10.00	4.61	14.60
Chhattisgarh	5.68	4.40	10.07	1.99	0.52	2.51	7.67	4.91	12.58
Uttarakhand	2.10	1.75	3.85	1.02	0.20	1.22	3.12	1.95	5.07
Other NE States	3.75	2.13	5.88	1.04	0.46	1.50	4.80	2.59	7.39
Other states	1.08	0.32	1.40	7.98	1.16	9.14	9.06	1.48	10.54
Total	264.75	126.42	391.18	126.74	32.60	159.35	391.50	159.03	550.53

Source: ibid

Table 4: Growth Rate in MCWS Labour Force Between 2007 and 2012

State/Union Territory	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	1.54	1.73	1.62	1.45	2.90	1.84	1.51	1.93	1.67
Assam	2.25	3.59	2.51	3.30	5.13	3.54	2.42	3.75	2.67
Bihar	2.47	0.85	2.20	2.46	2.75	2.49	2.47	0.99	2.23
Gujarat	1.81	2.32	2.00	2.84	2.78	2.83	2.23	2.42	2.29
Haryana	1.99	4.70	2.92	3.58	4.32	3.69	2.54	4.64	3.15
Himachal Pradesh	1.46	2.06	1.72	2.84	3.40	2.97	1.64	2.14	1.84
Jammu & Kashmir	1.48	0.99	1.36	2.92	0.35	2.58	1.90	0.89	1.68
Karnataka	1.39	1.97	1.61	2.49	2.54	2.50	1.79	2.09	1.89
Kerala	1.18	1.51	1.28	0.81	1.69	1.09	1.08	1.56	1.23
Madhya Pradesh	2.16	1.23	1.86	3.08	3.35	3.13	2.43	1.57	2.19
Maharashtra	1.47	1.91	1.64	2.71	3.84	2.95	2.07	2.48	2.20
Orissa	1.16	1.72	1.32	2.22	4.56	2.68	1.34	2.05	1.53
Punjab	1.05	4.05	2.15	3.10	3.93	3.24	1.86	4.03	2.51
Rajasthan	2.52	2.13	2.37	2.80	3.53	2.95	2.59	2.31	2.49
Tamil Nadu	-1.23	0.10	-0.66	2.77	3.92	3.08	0.91	1.49	1.11
Uttar Pradesh	2.36	3.58	2.68	2.84	3.32	2.90	2.47	3.55	2.73
West Bengal	2.03	2.62	2.14	1.23	1.50	1.28	1.79	2.30	1.88
Jharkhand	2.57	2.77	2.62	2.16	2.55	2.22	2.47	2.73	2.53
Chhattisgarh	1.71	1.25	1.51	3.19	4.23	3.40	2.07	1.52	1.85
Uttarakhand	1.96	2.20	2.06	2.92	3.39	3.00	2.27	2.34	2.29
Other NE States	2.89	3.78	3.20	2.71	3.15	2.84	2.85	3.67	3.12
Other states	2.36	5.15	2.91	4.18	3.27	4.06	3.94	3.63	3.90
Total	1.84	2.14	1.94	2.62	3.24	2.74	2.09	2.36	2.16

Source: ibid

Table 5: Growth Rate in MCWS Labour Force Between 2012 and 2017

State/Union Territory	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Andhra Pradesh	1.18	1.09	1.14	1.03	2.17	1.36	1.14	1.29	1.19
Assam	1.99	3.09	2.22	2.58	2.50	2.57	2.09	3.03	2.27
Bihar	2.28	0.99	2.08	1.86	2.82	1.97	2.23	1.14	2.07
Gujarat	1.47	2.14	1.72	2.18	2.41	2.22	1.77	2.20	1.90
Haryana	1.58	4.03	2.49	3.08	3.42	3.13	2.13	3.94	2.68
Himachal Pradesh	1.34	1.28	1.31	2.32	1.39	2.10	1.47	1.29	1.40
Jammu & Kashmir	1.81	1.73	1.79	2.08	0.88	1.94	1.89	1.60	1.83
Karnataka	0.86	1.75	1.21	1.91	1.90	1.90	1.26	1.78	1.43
Kerala	0.83	0.57	0.75	0.54	1.25	0.78	0.76	0.75	0.76
Madhya Pradesh	2.06	1.42	1.86	2.46	2.20	2.41	2.18	1.55	2.01
Maharashtra	1.22	1.58	1.36	2.19	3.27	2.43	1.70	2.11	1.83
Orissa	1.28	1.34	1.30	1.80	2.73	2.00	1.37	1.52	1.41
Punjab	0.83	3.39	1.85	2.38	2.07	2.33	1.48	3.16	2.01
Rajasthan	2.48	2.10	2.34	2.15	2.07	2.13	2.40	2.10	2.30
Tamil Nadu	-1.66	-0.32	-1.06	2.29	2.19	2.26	0.64	0.69	0.66
Uttar Pradesh	2.20	3.26	2.50	2.26	1.73	2.18	2.22	3.08	2.43
West Bengal	1.66	1.81	1.69	0.77	0.50	0.72	1.40	1.44	1.41
Jharkhand	2.35	12.54	5.25	1.90	6.37	2.67	2.25	11.70	4.72
Chhattisgarh	1.55	1.45	1.51	2.94	2.94	2.94	1.90	1.60	1.78
Uttarakhand	1.96	6.73	3.96	2.37	2.47	2.39	2.09	6.24	3.57
Other NE States	2.28	3.27	2.63	2.26	3.33	2.58	2.28	3.28	2.62
Other states	1.76	4.21	2.29	2.81	2.20	2.73	2.68	2.61	2.68
Total	1.64	2.18	1.81	2.05	2.31	2.11	1.77	2.20	1.90

Source: ibid

Annex 5.4: State and Age Group-wise MCWS Labour Force by Sector and Sex as on 1st April of 2007, 2012 and 2017.

Projected Age-Sex MCWS Labour Force of Andhra Pradesh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.01	0.01	0.02	0.00	0.00	0.00	0.01	0.01	0.02
10-14	0.25	0.42	0.67	0.06	0.05	0.11	0.31	0.47	0.78
15-19	1.96	1.51	3.47	0.50	0.20	0.69	2.46	1.71	4.16
20-24	2.56	1.37	3.93	0.91	0.33	1.24	3.47	1.70	5.17
25-29	2.33	1.53	3.86	1.03	0.34	1.37	3.36	1.86	5.23
30-34	2.12	1.61	3.73	0.95	0.31	1.26	3.08	1.92	5.00
35-39	1.96	1.49	3.45	0.84	0.37	1.21	2.81	1.86	4.67
40-44	1.78	1.24	3.03	0.76	0.30	1.06	2.54	1.55	4.08
45-49	1.53	1.02	2.54	0.66	0.19	0.85	2.19	1.21	3.40
50-54	1.20	0.74	1.94	0.52	0.16	0.67	1.72	0.90	2.62
55-59	0.87	0.61	1.48	0.32	0.09	0.41	1.19	0.70	1.89
60+	1.12	0.58	1.69	0.22	0.11	0.34	1.34	0.69	2.03
Total	17.70	12.12	29.82	6.77	2.45	9.22	24.47	14.57	39.04

Source: ibid

Projected Age-Sex MCWS Labour Force of Andhra Pradesh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.02	0.27	0.29	0.02	0.04	0.06	0.04	0.31	0.35
15-19	1.84	1.45	3.29	0.43	0.18	0.61	2.27	1.63	3.90
20-24	2.90	1.53	4.43	0.89	0.36	1.25	3.80	1.88	5.68
25-29	2.64	1.61	4.26	1.08	0.38	1.46	3.73	1.99	5.72
30-34	2.31	1.72	4.02	1.06	0.38	1.44	3.37	2.10	5.47
35-39	2.09	1.67	3.76	0.94	0.46	1.40	3.03	2.13	5.15
40-44	1.89	1.45	3.33	0.82	0.37	1.19	2.71	1.82	4.53
45-49	1.71	1.20	2.92	0.75	0.22	0.97	2.47	1.43	3.89
50-54	1.39	0.87	2.26	0.62	0.19	0.81	2.01	1.06	3.07
55-59	1.05	0.74	1.79	0.40	0.11	0.51	1.45	0.85	2.31
60+	1.26	0.70	1.95	0.26	0.14	0.40	1.51	0.84	2.35
Total	19.10	13.21	32.31	7.28	2.83	10.11	26.38	16.04	42.42

Source: ibid

Projected Age-Sex MCWS Labour Force of Andhra Pradesh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.14	0.14	0.00	0.04	0.04	0.00	0.18	0.18
15-19	1.55	1.31	2.86	0.37	0.16	0.53	1.92	1.47	3.39
20-24	2.87	1.54	4.41	0.81	0.36	1.16	3.68	1.89	5.57
25-29	2.99	1.81	4.80	1.09	0.41	1.49	4.08	2.22	6.30
30-34	2.60	1.77	4.37	1.14	0.39	1.53	3.74	2.16	5.90
35-39	2.25	1.69	3.94	1.05	0.54	1.59	3.29	2.23	5.53
40-44	1.99	1.55	3.54	0.92	0.45	1.37	2.91	2.00	4.91
45-49	1.80	1.34	3.15	0.82	0.26	1.08	2.63	1.60	4.22
50-54	1.54	1.03	2.57	0.70	0.23	0.93	2.24	1.26	3.50
55-59	1.21	0.92	2.14	0.47	0.14	0.61	1.69	1.06	2.75
60+	1.44	0.84	2.29	0.29	0.18	0.48	1.74	1.02	2.76
Total	20.25	13.95	34.20	7.66	3.15	10.81	27.91	17.10	45.01

Source: ibid

Projected Age-Sex MCWS Labour Force of Assam in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
10-14	0.09	0.02	0.11	0.00	0.00	0.00	0.09	0.02	0.11
15-19	0.64	0.21	0.85	0.06	0.01	0.07	0.70	0.22	0.92
20-24	0.97	0.24	1.21	0.14	0.04	0.18	1.11	0.28	1.39
25-29	0.95	0.20	1.15	0.20	0.03	0.23	1.15	0.23	1.38
30-34	0.87	0.22	1.09	0.20	0.03	0.23	1.07	0.25	1.32
35-39	0.82	0.22	1.04	0.19	0.03	0.22	1.01	0.25	1.26
40-44	0.75	0.21	0.96	0.17	0.02	0.18	0.92	0.22	1.14
45-49	0.62	0.14	0.75	0.14	0.02	0.16	0.75	0.15	0.91
50-54	0.48	0.10	0.58	0.11	0.01	0.12	0.59	0.11	0.70
55-59	0.33	0.04	0.37	0.07	0.00	0.07	0.40	0.05	0.45
60+	0.47	0.04	0.51	0.04	0.00	0.04	0.51	0.04	0.56
Total	7.00	1.64	8.64	1.31	0.19	1.50	8.31	1.83	10.14

Source: ibid

Projected Age-Sex MCWS Labour Force of Assam in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.08	0.01	0.09	0.00	0.00	0.00	0.08	0.01	0.09
15-19	0.65	0.21	0.87	0.06	0.00	0.07	0.72	0.22	0.94
20-24	1.16	0.31	1.46	0.17	0.05	0.22	1.32	0.36	1.68
25-29	1.10	0.22	1.32	0.23	0.05	0.27	1.32	0.27	1.59
30-34	0.91	0.24	1.15	0.23	0.04	0.27	1.15	0.27	1.42
35-39	0.83	0.26	1.09	0.22	0.04	0.26	1.06	0.29	1.35
40-44	0.79	0.27	1.06	0.19	0.02	0.21	0.98	0.29	1.27
45-49	0.71	0.19	0.90	0.16	0.03	0.19	0.87	0.22	1.09
50-54	0.59	0.15	0.74	0.14	0.01	0.15	0.73	0.15	0.88
55-59	0.42	0.05	0.48	0.09	0.01	0.10	0.52	0.06	0.58
60+	0.58	0.05	0.63	0.05	0.00	0.05	0.62	0.06	0.68
Total	7.82	1.96	9.78	1.54	0.24	1.79	9.36	2.20	11.56

Source: ibid

Projected Age-Sex MCWS Labour Force of Assam in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.07	0.01	0.08	0.00	0.00	0.00	0.07	0.01	0.08
15-19	0.62	0.21	0.83	0.06	0.00	0.06	0.68	0.21	0.89
20-24	1.19	0.35	1.54	0.18	0.06	0.24	1.37	0.40	1.78
25-29	1.30	0.27	1.56	0.26	0.05	0.32	1.56	0.32	1.88
30-34	1.05	0.26	1.31	0.27	0.04	0.31	1.32	0.30	1.62
35-39	0.87	0.28	1.15	0.26	0.04	0.29	1.13	0.32	1.45
40-44	0.81	0.32	1.13	0.21	0.02	0.23	1.02	0.34	1.37
45-49	0.75	0.24	0.99	0.18	0.03	0.22	0.93	0.28	1.21
50-54	0.70	0.21	0.91	0.16	0.01	0.17	0.86	0.22	1.08
55-59	0.53	0.07	0.60	0.11	0.01	0.12	0.65	0.08	0.72
60+	0.73	0.07	0.80	0.05	0.00	0.05	0.78	0.08	0.86
Total	8.63	2.28	10.91	1.75	0.27	2.03	10.38	2.56	12.94

Source: ibid

Projected Age-Sex MCWS Labour Force of Bihar in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.20	0.04	0.24	0.02	0.01	0.03	0.22	0.05	0.27
15-19	2.34	0.26	2.60	0.15	0.01	0.16	2.49	0.27	2.76
20-24	3.07	0.38	3.45	0.33	0.04	0.38	3.40	0.43	3.83
25-29	2.67	0.51	3.18	0.40	0.04	0.44	3.06	0.55	3.61
30-34	2.41	0.62	3.03	0.35	0.04	0.39	2.76	0.66	3.42
35-39	2.31	0.68	2.99	0.32	0.05	0.36	2.62	0.73	3.35
40-44	2.15	0.60	2.75	0.29	0.04	0.33	2.44	0.64	3.08
45-49	1.84	0.42	2.26	0.25	0.02	0.28	2.09	0.45	2.53
50-54	1.49	0.32	1.81	0.20	0.03	0.23	1.70	0.35	2.04
55-59	1.15	0.23	1.38	0.15	0.02	0.17	1.30	0.25	1.55
60+	1.82	0.30	2.12	0.13	0.03	0.16	1.95	0.33	2.28
Total	21.45	4.36	25.81	2.59	0.34	2.93	24.04	4.70	28.73

Source: ibid

Projected Age-Sex MCWS Labour Force of Bihar in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.06	0.00	0.06	0.01	0.00	0.01	0.07	0.00	0.07
15-19	2.41	0.18	2.60	0.12	0.00	0.12	2.54	0.18	2.72
20-24	4.06	0.45	4.51	0.36	0.05	0.41	4.42	0.50	4.92
25-29	3.32	0.53	3.85	0.48	0.05	0.52	3.80	0.58	4.38
30-34	2.58	0.59	3.16	0.43	0.04	0.47	3.00	0.63	3.64
35-39	2.34	0.69	3.03	0.37	0.05	0.42	2.70	0.74	3.44
40-44	2.23	0.65	2.88	0.32	0.05	0.37	2.55	0.70	3.25
45-49	2.05	0.47	2.52	0.28	0.03	0.31	2.33	0.50	2.82
50-54	1.73	0.35	2.09	0.23	0.04	0.27	1.97	0.39	2.36
55-59	1.37	0.28	1.65	0.18	0.04	0.22	1.56	0.31	1.87
60+	2.08	0.36	2.43	0.14	0.04	0.18	2.22	0.40	2.62
Total	24.23	4.55	28.77	2.93	0.39	3.31	27.15	4.93	32.08

Source: ibid

Projected Age-Sex MCWS Labour Force of Bihar in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	2.25	0.07	2.32	0.10	0.00	0.10	2.34	0.07	2.42
20-24	4.47	0.45	4.92	0.33	0.05	0.39	4.80	0.51	5.31
25-29	4.41	0.67	5.08	0.52	0.05	0.57	4.92	0.73	5.65
30-34	3.23	0.62	3.85	0.51	0.06	0.57	3.74	0.68	4.42
35-39	2.50	0.67	3.16	0.44	0.06	0.50	2.94	0.72	3.66
40-44	2.25	0.66	2.91	0.37	0.05	0.42	2.62	0.72	3.33
45-49	2.12	0.48	2.61	0.30	0.03	0.33	2.43	0.52	2.94
50-54	1.94	0.39	2.33	0.26	0.04	0.30	2.19	0.43	2.62
55-59	1.60	0.33	1.93	0.21	0.04	0.25	1.81	0.37	2.18
60+	2.36	0.43	2.79	0.16	0.05	0.21	2.52	0.48	3.00
Total	27.11	4.78	31.89	3.21	0.44	3.65	30.32	5.22	35.54

Source: ibid

Projected Age-Sex MCWS Labour Force of Chhattisgarh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.06	0.04	0.10	0.02	0.00	0.02	0.08	0.05	0.13
15-19	0.48	0.30	0.78	0.09	0.03	0.12	0.57	0.33	0.90
20-24	0.70	0.51	1.20	0.19	0.04	0.23	0.89	0.54	1.43
25-29	0.60	0.46	1.06	0.24	0.05	0.28	0.83	0.51	1.34
30-34	0.56	0.53	1.08	0.22	0.05	0.26	0.77	0.57	1.35
35-39	0.54	0.49	1.03	0.19	0.05	0.25	0.74	0.54	1.28
40-44	0.50	0.48	0.98	0.17	0.05	0.21	0.66	0.53	1.19
45-49	0.42	0.37	0.78	0.14	0.04	0.18	0.55	0.41	0.96
50-54	0.33	0.27	0.60	0.10	0.02	0.12	0.43	0.29	0.72
55-59	0.26	0.19	0.45	0.07	0.01	0.09	0.33	0.21	0.53
60+	0.39	0.21	0.60	0.06	0.01	0.07	0.45	0.23	0.67
Total	4.83	3.84	8.67	1.47	0.36	1.84	6.30	4.21	10.51

Source: ibid

Projected Age-Sex MCWS Labour Force of Chhattisgarh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.04	0.00	0.04	0.02	0.00	0.02	0.06	0.00	0.06
15-19	0.48	0.27	0.75	0.09	0.04	0.12	0.56	0.31	0.87
20-24	0.83	0.59	1.42	0.20	0.05	0.25	1.03	0.64	1.67
25-29	0.70	0.49	1.19	0.29	0.07	0.35	0.98	0.56	1.54
30-34	0.56	0.52	1.07	0.26	0.06	0.32	0.82	0.57	1.39
35-39	0.53	0.50	1.02	0.23	0.06	0.29	0.76	0.56	1.32
40-44	0.52	0.53	1.05	0.19	0.05	0.24	0.71	0.59	1.30
45-49	0.48	0.44	0.91	0.16	0.05	0.21	0.64	0.48	1.13
50-54	0.40	0.31	0.71	0.13	0.03	0.16	0.52	0.34	0.86
55-59	0.30	0.22	0.52	0.09	0.02	0.11	0.39	0.24	0.63
60+	0.44	0.24	0.69	0.07	0.02	0.08	0.51	0.26	0.77
Total	5.26	4.11	9.36	1.72	0.45	2.17	6.98	4.55	11.53

Source: ibid

Projected Age-Sex MCWS Labour Force of Chhattisgarh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.02	0.00	0.02	0.02	0.00	0.02
15-19	0.45	0.22	0.67	0.09	0.04	0.13	0.54	0.26	0.80
20-24	0.85	0.60	1.44	0.22	0.05	0.28	1.07	0.65	1.72
25-29	0.84	0.58	1.41	0.33	0.08	0.41	1.16	0.66	1.82
30-34	0.65	0.57	1.22	0.32	0.07	0.39	0.97	0.64	1.61
35-39	0.53	0.49	1.02	0.27	0.07	0.35	0.80	0.56	1.37
40-44	0.52	0.54	1.06	0.22	0.06	0.28	0.74	0.60	1.34
45-49	0.50	0.49	0.99	0.19	0.05	0.24	0.69	0.54	1.23
50-54	0.46	0.37	0.83	0.15	0.04	0.19	0.61	0.41	1.02
55-59	0.36	0.26	0.62	0.11	0.02	0.13	0.47	0.29	0.75
60+	0.52	0.28	0.80	0.08	0.02	0.10	0.60	0.30	0.90
Total	5.68	4.40	10.07	1.99	0.52	2.51	7.67	4.91	12.58

Source: ibid

Projected Age-Sex MCWS Labour Force of Gujarat in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
10-14	0.08	0.07	0.14	0.03	0.01	0.05	0.11	0.08	0.19
15-19	1.18	0.60	1.78	0.50	0.12	0.62	1.68	0.72	2.40
20-24	1.46	0.68	2.15	1.01	0.22	1.23	2.47	0.90	3.38
25-29	1.35	0.65	2.00	1.12	0.18	1.31	2.48	0.83	3.30
30-34	1.22	0.70	1.92	1.00	0.21	1.21	2.22	0.91	3.13
35-39	1.16	0.78	1.94	0.87	0.23	1.10	2.03	1.01	3.04
40-44	1.05	0.71	1.76	0.75	0.19	0.95	1.81	0.90	2.71
45-49	0.87	0.62	1.49	0.66	0.16	0.81	1.53	0.78	2.30
50-54	0.68	0.44	1.12	0.49	0.09	0.58	1.17	0.53	1.70
55-59	0.50	0.28	0.78	0.30	0.07	0.38	0.80	0.36	1.15
60+	0.71	0.26	0.96	0.25	0.02	0.27	0.95	0.28	1.23
Total	10.25	5.79	16.04	7.01	1.50	8.51	17.26	7.29	24.55

Source: ibid

Projected Age-Sex MCWS Labour Force of Gujarat in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
10-14	0.02	0.00	0.02	0.02	0.01	0.03	0.05	0.01	0.06
15-19	1.17	0.59	1.76	0.51	0.12	0.63	1.68	0.71	2.39
20-24	1.56	0.71	2.27	1.10	0.26	1.36	2.66	0.97	3.63
25-29	1.50	0.70	2.19	1.27	0.22	1.49	2.76	0.92	3.68
30-34	1.32	0.77	2.09	1.19	0.23	1.42	2.51	1.00	3.51
35-39	1.21	0.85	2.07	1.01	0.27	1.29	2.23	1.13	3.35
40-44	1.13	0.83	1.96	0.87	0.20	1.06	2.00	1.03	3.02
45-49	1.01	0.78	1.78	0.77	0.20	0.96	1.77	0.97	2.75
50-54	0.82	0.58	1.40	0.60	0.11	0.70	1.42	0.69	2.10
55-59	0.62	0.37	0.99	0.42	0.10	0.51	1.03	0.47	1.50
60+	0.86	0.32	1.18	0.31	0.01	0.31	1.16	0.33	1.49
Total	11.22	6.49	17.71	8.06	1.72	9.78	19.28	8.21	27.49

Source: ibid

Projected Age-Sex MCWS Labour Force of Gujarat in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
10-14	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
15-19	1.09	0.54	1.64	0.54	0.12	0.65	1.63	0.66	2.29
20-24	1.52	0.69	2.21	1.16	0.30	1.45	2.67	0.99	3.66
25-29	1.60	0.73	2.32	1.37	0.26	1.63	2.97	0.98	3.95
30-34	1.48	0.84	2.32	1.32	0.25	1.57	2.80	1.09	3.89
35-39	1.34	0.95	2.29	1.17	0.32	1.49	2.51	1.27	3.78
40-44	1.20	0.92	2.12	0.98	0.22	1.20	2.18	1.14	3.32
45-49	1.09	0.91	2.00	0.85	0.24	1.09	1.94	1.15	3.09
50-54	0.95	0.74	1.69	0.69	0.13	0.81	1.64	0.87	2.51
55-59	0.74	0.48	1.22	0.51	0.12	0.63	1.25	0.60	1.85
60+	1.07	0.40	1.47	0.39	0.01	0.40	1.45	0.41	1.87
Total	12.06	7.22	19.28	8.98	1.96	10.94	21.04	9.18	30.23

Source: ibid

Projected Age-Sex MCWS Labour Force of Haryana in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.03	0.04	0.00	0.00	0.01	0.02	0.03	0.05
15-19	0.34	0.20	0.55	0.13	0.04	0.18	0.48	0.25	0.72
20-24	0.78	0.30	1.09	0.36	0.06	0.42	1.14	0.36	1.50
25-29	0.69	0.27	0.96	0.39	0.05	0.44	1.08	0.32	1.40
30-34	0.60	0.33	0.92	0.34	0.06	0.40	0.93	0.39	1.32
35-39	0.50	0.30	0.79	0.29	0.07	0.36	0.79	0.36	1.15
40-44	0.45	0.29	0.74	0.25	0.07	0.32	0.70	0.36	1.06
45-49	0.36	0.22	0.58	0.22	0.03	0.25	0.57	0.25	0.82
50-54	0.27	0.11	0.37	0.16	0.02	0.18	0.43	0.12	0.55
55-59	0.19	0.08	0.27	0.10	0.01	0.10	0.28	0.09	0.37
60+	0.29	0.10	0.39	0.07	0.01	0.08	0.36	0.11	0.47
Total	4.48	2.22	6.69	2.31	0.42	2.73	6.79	2.64	9.43

Source: ibid

Projected Age-Sex MCWS Labour Force of Haryana in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.02	0.02
15-19	0.27	0.21	0.48	0.11	0.04	0.16	0.38	0.25	0.64
20-24	0.83	0.39	1.22	0.41	0.07	0.48	1.24	0.46	1.70
25-29	0.81	0.34	1.15	0.49	0.07	0.56	1.29	0.42	1.71
30-34	0.68	0.39	1.07	0.43	0.08	0.51	1.11	0.48	1.58
35-39	0.56	0.35	0.91	0.37	0.08	0.45	0.93	0.43	1.36
40-44	0.49	0.37	0.86	0.30	0.08	0.38	0.79	0.45	1.24
45-49	0.43	0.31	0.74	0.25	0.04	0.29	0.68	0.35	1.03
50-54	0.34	0.16	0.49	0.20	0.03	0.23	0.54	0.18	0.72
55-59	0.24	0.12	0.36	0.13	0.01	0.14	0.37	0.13	0.50
60+	0.30	0.13	0.43	0.08	0.01	0.08	0.38	0.14	0.51
Total	4.94	2.79	7.73	2.76	0.52	3.28	7.70	3.31	11.01

Source: ibid

Projected Age-Sex MCWS Labour Force of Haryana in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.19	0.20	0.39	0.09	0.05	0.14	0.28	0.25	0.53
20-24	0.79	0.40	1.19	0.47	0.08	0.55	1.26	0.48	1.74
25-29	0.87	0.42	1.29	0.58	0.10	0.67	1.45	0.52	1.97
30-34	0.80	0.53	1.33	0.52	0.11	0.63	1.32	0.64	1.96
35-39	0.65	0.42	1.07	0.45	0.09	0.55	1.11	0.51	1.62
40-44	0.55	0.45	1.00	0.36	0.09	0.45	0.91	0.54	1.45
45-49	0.47	0.41	0.88	0.29	0.04	0.33	0.76	0.45	1.21
50-54	0.40	0.22	0.62	0.23	0.03	0.26	0.63	0.25	0.88
55-59	0.30	0.18	0.48	0.15	0.02	0.17	0.45	0.19	0.64
60+	0.32	0.17	0.50	0.08	0.01	0.09	0.40	0.18	0.58
Total	5.34	3.40	8.74	3.23	0.61	3.84	8.57	4.01	12.58

Source: ibid

Projected Age-Sex MCWS Labour Force of Himachal Pradesh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
15-19	0.07	0.06	0.13	0.01	0.00	0.01	0.08	0.06	0.15
20-24	0.21	0.17	0.38	0.03	0.01	0.03	0.24	0.17	0.41
25-29	0.24	0.18	0.41	0.04	0.01	0.05	0.28	0.19	0.47
30-34	0.22	0.17	0.39	0.04	0.01	0.05	0.26	0.18	0.44
35-39	0.19	0.15	0.34	0.03	0.01	0.04	0.22	0.16	0.38
40-44	0.16	0.14	0.31	0.03	0.01	0.04	0.19	0.15	0.34
45-49	0.14	0.11	0.25	0.02	0.01	0.03	0.17	0.11	0.28
50-54	0.12	0.09	0.21	0.02	0.01	0.03	0.14	0.09	0.24
55-59	0.10	0.07	0.17	0.01	0.00	0.02	0.11	0.07	0.19
60+	0.19	0.12	0.31	0.01	0.00	0.01	0.20	0.12	0.32
Total	1.66	1.25	2.91	0.24	0.07	0.32	1.90	1.32	3.22

Source: ibid

Projected Age-Sex MCWS Labour Force of Himachal Pradesh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.05	0.04	0.09	0.01	0.00	0.01	0.06	0.05	0.11
20-24	0.21	0.17	0.38	0.03	0.01	0.04	0.24	0.18	0.42
25-29	0.26	0.19	0.45	0.04	0.02	0.06	0.31	0.21	0.51
30-34	0.25	0.18	0.43	0.04	0.01	0.06	0.29	0.20	0.49
35-39	0.21	0.17	0.39	0.04	0.01	0.05	0.25	0.18	0.44
40-44	0.18	0.16	0.34	0.03	0.01	0.05	0.21	0.17	0.38
45-49	0.16	0.13	0.29	0.03	0.01	0.04	0.19	0.14	0.33
50-54	0.14	0.10	0.24	0.02	0.01	0.03	0.16	0.11	0.27
55-59	0.11	0.08	0.20	0.02	0.01	0.02	0.13	0.09	0.22
60+	0.21	0.15	0.36	0.01	0.00	0.02	0.22	0.15	0.37
Total	1.78	1.38	3.17	0.28	0.09	0.37	2.06	1.47	3.53

Source: ibid

Projected Age-Sex MCWS Labour Force of Himachal Pradesh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.03	0.03	0.06	0.01	0.00	0.01	0.04	0.03	0.08
20-24	0.18	0.15	0.34	0.04	0.01	0.04	0.22	0.16	0.38
25-29	0.27	0.19	0.46	0.04	0.02	0.06	0.32	0.21	0.53
30-34	0.28	0.20	0.47	0.04	0.01	0.06	0.32	0.21	0.53
35-39	0.24	0.19	0.43	0.04	0.01	0.05	0.29	0.20	0.48
40-44	0.20	0.18	0.38	0.04	0.01	0.05	0.24	0.19	0.43
45-49	0.18	0.14	0.32	0.03	0.01	0.04	0.21	0.15	0.36
50-54	0.15	0.12	0.27	0.03	0.01	0.04	0.18	0.13	0.31
55-59	0.13	0.10	0.22	0.02	0.01	0.03	0.15	0.10	0.25
60+	0.23	0.19	0.42	0.02	0.00	0.02	0.25	0.19	0.44
Total	1.91	1.47	3.38	0.31	0.09	0.41	2.22	1.57	3.79

Source: ibid

Projected Age-Sex MCWS Labour Force of Jammu & Kashmir in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.01	0.03	0.00	0.02	0.02	0.01	0.03	0.04
15-19	0.23	0.10	0.33	0.01	0.01	0.03	0.25	0.12	0.36
20-24	0.36	0.14	0.50	0.12	0.02	0.14	0.48	0.17	0.65
25-29	0.33	0.11	0.44	0.15	0.03	0.17	0.47	0.14	0.61
30-34	0.27	0.10	0.37	0.14	0.02	0.16	0.42	0.11	0.53
35-39	0.25	0.09	0.34	0.13	0.02	0.15	0.38	0.11	0.49
40-44	0.22	0.07	0.30	0.12	0.01	0.13	0.34	0.09	0.43
45-49	0.19	0.05	0.25	0.10	0.01	0.11	0.29	0.07	0.36
50-54	0.15	0.04	0.19	0.08	0.01	0.08	0.23	0.04	0.28
55-59	0.11	0.03	0.15	0.05	0.00	0.05	0.16	0.04	0.20
60+	0.23	0.04	0.27	0.05	0.00	0.06	0.28	0.04	0.33
Total	2.36	0.80	3.16	0.95	0.16	1.11	3.31	0.95	4.26

Source: ibid

Projected Age-Sex MCWS Labour Force of Jammu & Kashmir in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
15-19	0.18	0.10	0.27	0.00	0.01	0.01	0.18	0.11	0.29
20-24	0.38	0.17	0.55	0.13	0.03	0.16	0.51	0.19	0.71
25-29	0.39	0.13	0.52	0.17	0.03	0.20	0.56	0.16	0.72
30-34	0.31	0.10	0.42	0.16	0.02	0.18	0.47	0.12	0.60
35-39	0.26	0.09	0.35	0.15	0.02	0.17	0.41	0.11	0.51
40-44	0.23	0.07	0.30	0.14	0.01	0.15	0.37	0.08	0.45
45-49	0.21	0.06	0.27	0.12	0.02	0.13	0.33	0.07	0.40
50-54	0.17	0.04	0.22	0.10	0.01	0.10	0.27	0.05	0.32
55-59	0.13	0.04	0.17	0.07	0.00	0.07	0.20	0.04	0.25
60+	0.27	0.04	0.31	0.07	0.00	0.07	0.34	0.05	0.38
Total	2.54	0.84	3.38	1.10	0.16	1.26	3.64	1.00	4.63

Source: ibid

Projected Age-Sex MCWS Labour Force of Jammu & Kashmir in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
15-19	0.16	0.08	0.25	0.00	0.01	0.01	0.16	0.10	0.26
20-24	0.36	0.16	0.52	0.13	0.02	0.15	0.49	0.18	0.67
25-29	0.45	0.15	0.59	0.18	0.03	0.21	0.63	0.17	0.80
30-34	0.38	0.13	0.51	0.18	0.02	0.20	0.56	0.15	0.71
35-39	0.29	0.10	0.40	0.17	0.02	0.19	0.46	0.12	0.59
40-44	0.25	0.07	0.32	0.15	0.01	0.17	0.40	0.09	0.49
45-49	0.22	0.06	0.28	0.13	0.02	0.15	0.35	0.08	0.43
50-54	0.19	0.05	0.24	0.11	0.01	0.12	0.31	0.06	0.37
55-59	0.16	0.05	0.21	0.08	0.01	0.09	0.24	0.06	0.29
60+	0.32	0.05	0.37	0.09	0.00	0.09	0.41	0.06	0.47
Total	2.78	0.91	3.69	1.23	0.17	1.40	4.01	1.08	5.08

Source: ibid

Projected Age-Sex MCWS Labour Force of Jharkhand in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.05	0.07	0.12	0.01	0.01	0.02	0.06	0.08	0.14
15-19	0.62	0.15	0.77	0.07	0.02	0.09	0.69	0.18	0.86
20-24	0.87	0.25	1.12	0.22	0.05	0.27	1.09	0.30	1.39
25-29	0.76	0.22	0.97	0.31	0.02	0.33	1.07	0.24	1.30
30-34	0.71	0.28	0.98	0.27	0.05	0.32	0.97	0.33	1.30
35-39	0.69	0.24	0.93	0.24	0.04	0.28	0.93	0.28	1.21
40-44	0.64	0.24	0.88	0.21	0.05	0.26	0.85	0.29	1.14
45-49	0.54	0.19	0.73	0.19	0.02	0.21	0.73	0.21	0.94
50-54	0.43	0.13	0.56	0.16	0.03	0.19	0.59	0.16	0.75
55-59	0.32	0.09	0.42	0.12	0.03	0.14	0.44	0.12	0.56
60+	0.43	0.10	0.53	0.07	0.03	0.10	0.50	0.13	0.63
Total	6.05	1.97	8.01	1.87	0.35	2.22	7.92	2.31	10.23

Source: ibid

Projected Age-Sex MCWS Labour Force of Jharkhand in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.06	0.06	0.01	0.00	0.01	0.01	0.06	0.07
15-19	0.63	0.16	0.79	0.05	0.01	0.06	0.67	0.18	0.85
20-24	1.15	0.34	1.49	0.23	0.06	0.28	1.38	0.40	1.77
25-29	0.94	0.25	1.19	0.36	0.03	0.39	1.30	0.28	1.58
30-34	0.75	0.29	1.04	0.32	0.06	0.38	1.07	0.34	1.41
35-39	0.69	0.25	0.94	0.28	0.05	0.33	0.97	0.30	1.27
40-44	0.66	0.28	0.94	0.23	0.06	0.29	0.90	0.33	1.23
45-49	0.61	0.23	0.84	0.21	0.02	0.23	0.82	0.26	1.07
50-54	0.50	0.16	0.66	0.17	0.04	0.21	0.68	0.20	0.87
55-59	0.39	0.12	0.50	0.14	0.04	0.18	0.53	0.15	0.68
60+	0.53	0.12	0.66	0.08	0.04	0.12	0.62	0.16	0.78
Total	6.87	2.25	9.12	2.08	0.40	2.47	8.94	2.65	11.59

Source: ibid

Projected Age-Sex MCWS Labour Force of Jharkhand in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.04	0.04
15-19	0.57	0.15	0.72	0.02	0.01	0.03	0.59	0.16	0.75
20-24	1.25	0.61	1.86	0.22	0.06	0.27	1.47	0.67	2.14
25-29	1.23	0.60	1.83	0.38	0.07	0.46	1.61	0.67	2.29
30-34	0.94	0.58	1.52	0.38	0.10	0.47	1.31	0.68	1.99
35-39	0.73	0.45	1.19	0.34	0.06	0.40	1.08	0.51	1.59
40-44	0.67	0.45	1.12	0.27	0.07	0.34	0.94	0.51	1.46
45-49	0.64	0.40	1.03	0.23	0.03	0.26	0.87	0.43	1.30
50-54	0.57	0.30	0.87	0.19	0.05	0.24	0.76	0.35	1.11
55-59	0.46	0.25	0.70	0.16	0.04	0.20	0.62	0.29	0.91
60+	0.66	0.25	0.90	0.09	0.05	0.13	0.75	0.29	1.04
Total	7.71	4.07	11.78	2.28	0.54	2.82	10.00	4.61	14.60

Source: ibid

Projected Age-Sex MCWS Labour Force of Karnataka in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.16	0.16	0.31	0.01	0.00	0.01	0.17	0.16	0.33
15-19	1.12	0.66	1.78	0.44	0.12	0.56	1.56	0.78	2.34
20-24	1.60	0.71	2.31	0.81	0.34	1.14	2.41	1.04	3.45
25-29	1.45	0.80	2.25	0.99	0.22	1.21	2.44	1.02	3.45
30-34	1.25	0.91	2.16	0.91	0.26	1.17	2.16	1.17	3.33
35-39	1.14	0.91	2.05	0.80	0.25	1.04	1.94	1.16	3.09
40-44	1.07	0.87	1.94	0.69	0.21	0.90	1.77	1.07	2.84
45-49	0.96	0.65	1.60	0.60	0.15	0.74	1.55	0.79	2.34
50-54	0.77	0.43	1.20	0.45	0.11	0.57	1.22	0.54	1.76
55-59	0.57	0.32	0.89	0.28	0.07	0.35	0.85	0.39	1.24
60+	0.87	0.36	1.23	0.23	0.05	0.28	1.10	0.41	1.50
Total	10.96	6.76	17.72	6.21	1.77	7.98	17.17	8.53	25.69

Source: ibid

Projected Age-Sex MCWS Labour Force of Karnataka in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.10	0.08	0.17	0.00	0.00	0.00	0.10	0.08	0.17
15-19	1.02	0.59	1.61	0.41	0.11	0.52	1.43	0.70	2.13
20-24	1.68	0.73	2.41	0.84	0.40	1.24	2.52	1.13	3.65
25-29	1.65	0.87	2.52	1.09	0.22	1.32	2.74	1.09	3.84
30-34	1.39	0.98	2.37	1.06	0.31	1.37	2.45	1.29	3.74
35-39	1.19	1.01	2.20	0.95	0.28	1.23	2.14	1.29	3.43
40-44	1.09	1.00	2.09	0.80	0.24	1.04	1.89	1.24	3.13
45-49	1.02	0.80	1.82	0.69	0.17	0.86	1.70	0.97	2.67
50-54	0.86	0.54	1.40	0.55	0.14	0.69	1.41	0.68	2.08
55-59	0.70	0.42	1.12	0.36	0.09	0.45	1.06	0.50	1.57
60+	1.04	0.44	1.48	0.27	0.05	0.32	1.31	0.49	1.80
Total	11.74	7.45	19.19	7.02	2.00	9.02	18.76	9.45	28.21

Source: ibid

Projected Age-Sex MCWS Labour Force of Karnataka in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.04	0.00	0.04	0.00	0.00	0.00	0.04	0.00	0.04
15-19	0.89	0.51	1.40	0.39	0.10	0.49	1.29	0.60	1.89
20-24	1.54	0.65	2.19	0.85	0.45	1.30	2.39	1.10	3.49
25-29	1.75	0.96	2.71	1.15	0.22	1.37	2.90	1.18	4.08
30-34	1.60	1.11	2.71	1.14	0.33	1.47	2.74	1.44	4.18
35-39	1.33	1.09	2.43	1.09	0.31	1.40	2.42	1.41	3.83
40-44	1.14	1.12	2.27	0.93	0.28	1.21	2.08	1.40	3.48
45-49	1.02	0.92	1.94	0.78	0.19	0.98	1.81	1.11	2.92
50-54	0.91	0.66	1.57	0.62	0.17	0.79	1.53	0.83	2.36
55-59	0.79	0.54	1.33	0.43	0.11	0.53	1.21	0.65	1.86
60+	1.23	0.55	1.78	0.33	0.04	0.36	1.56	0.59	2.15
Total	12.25	8.13	20.38	7.71	2.20	9.92	19.97	10.33	30.29

Source: ibid

Projected Age-Sex MCWS Labour Force of Kerala in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01
15-19	0.32	0.16	0.48	0.12	0.05	0.17	0.44	0.21	0.65
20-24	0.95	0.44	1.38	0.28	0.17	0.45	1.23	0.60	1.83
25-29	0.99	0.43	1.42	0.33	0.20	0.53	1.32	0.63	1.95
30-34	0.91	0.43	1.34	0.33	0.17	0.49	1.24	0.60	1.84
35-39	0.83	0.42	1.25	0.30	0.15	0.45	1.13	0.57	1.70
40-44	0.76	0.38	1.13	0.29	0.11	0.40	1.04	0.49	1.53
45-49	0.67	0.31	0.97	0.25	0.11	0.36	0.92	0.41	1.33
50-54	0.55	0.22	0.77	0.21	0.09	0.31	0.77	0.31	1.08
55-59	0.40	0.17	0.56	0.15	0.03	0.18	0.54	0.20	0.74
60+	0.56	0.22	0.79	0.17	0.05	0.22	0.73	0.27	1.00
Total	6.94	3.17	10.11	2.43	1.13	3.56	9.38	4.30	13.67

Source: ibid

Projected Age-Sex MCWS Labour Force of Kerala in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.27	0.13	0.40	0.11	0.04	0.15	0.38	0.18	0.55
20-24	0.93	0.42	1.35	0.26	0.16	0.42	1.19	0.59	1.78
25-29	1.04	0.44	1.47	0.34	0.21	0.55	1.37	0.65	2.02
30-34	0.99	0.46	1.45	0.34	0.18	0.52	1.33	0.64	1.97
35-39	0.90	0.45	1.35	0.32	0.17	0.49	1.22	0.62	1.84
40-44	0.82	0.42	1.24	0.30	0.12	0.43	1.12	0.54	1.66
45-49	0.73	0.36	1.09	0.27	0.13	0.40	1.00	0.49	1.49
50-54	0.62	0.26	0.88	0.23	0.12	0.35	0.85	0.38	1.23
55-59	0.46	0.21	0.67	0.17	0.04	0.20	0.63	0.25	0.88
60+	0.62	0.25	0.88	0.19	0.06	0.25	0.82	0.31	1.13
Total	7.36	3.41	10.78	2.53	1.23	3.76	9.90	4.64	14.54

Source: ibid

Projected Age-Sex MCWS Labour Force of Kerala in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.23	0.14	0.37	0.10	0.04	0.14	0.33	0.18	0.51
20-24	0.88	0.39	1.27	0.24	0.16	0.40	1.12	0.55	1.67
25-29	1.02	0.40	1.42	0.32	0.22	0.53	1.33	0.62	1.95
30-34	1.04	0.45	1.48	0.34	0.19	0.53	1.37	0.63	2.01
35-39	0.97	0.47	1.44	0.33	0.18	0.51	1.30	0.64	1.95
40-44	0.87	0.45	1.32	0.32	0.13	0.45	1.19	0.58	1.77
45-49	0.78	0.39	1.17	0.29	0.14	0.44	1.07	0.54	1.61
50-54	0.67	0.30	0.97	0.26	0.14	0.40	0.92	0.44	1.37
55-59	0.51	0.24	0.75	0.18	0.04	0.23	0.69	0.28	0.97
60+	0.71	0.29	1.01	0.22	0.06	0.29	0.94	0.36	1.29
Total	7.68	3.51	11.19	2.60	1.31	3.91	10.28	4.82	15.10

Source: ibid

Projected Age-Sex MCWS Labour Force of Maharashtra in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01
10-14	0.18	0.18	0.36	0.05	0.04	0.08	0.23	0.21	0.44
15-19	1.48	0.87	2.36	0.92	0.28	1.20	2.40	1.15	3.56
20-24	2.45	1.21	3.66	2.07	0.51	2.58	4.52	1.72	6.24
25-29	2.20	1.22	3.42	2.53	0.57	3.10	4.72	1.79	6.52
30-34	1.93	0.42	2.35	2.30	0.61	2.90	4.23	1.02	5.25
35-39	1.79	1.53	3.32	1.98	0.68	2.66	3.77	2.21	5.98
40-44	1.66	1.32	2.98	1.68	0.53	2.21	3.35	1.85	5.20
45-49	1.43	1.12	2.56	1.40	0.34	1.74	2.83	1.46	4.29
50-54	1.15	0.74	1.89	1.08	0.26	1.34	2.23	1.00	3.23
55-59	0.84	0.59	1.42	0.68	0.14	0.81	1.51	0.73	2.24
60+	1.54	1.02	2.57	0.47	0.17	0.63	2.01	1.19	3.20
Total	16.66	10.24	26.90	15.14	4.11	19.26	31.80	14.35	46.15

Source: ibid

Projected Age-Sex MCWS Labour Force of Maharashtra in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.06	0.08	0.14	0.02	0.03	0.05	0.08	0.12	0.20
15-19	1.24	0.75	1.99	0.92	0.30	1.22	2.16	1.05	3.20
20-24	2.54	1.30	3.84	2.26	0.64	2.90	4.80	1.94	6.74
25-29	2.58	1.31	3.89	2.85	0.71	3.56	5.43	2.02	7.45
30-34	2.18	0.40	2.58	2.64	0.70	3.35	4.82	1.10	5.93
35-39	1.89	1.62	3.51	2.32	0.83	3.14	4.21	2.45	6.65
40-44	1.75	1.47	3.22	1.95	0.63	2.59	3.70	2.11	5.81
45-49	1.60	1.40	3.00	1.64	0.41	2.06	3.24	1.81	5.05
50-54	1.37	0.96	2.33	1.31	0.34	1.65	2.68	1.30	3.98
55-59	1.03	0.75	1.78	0.87	0.18	1.05	1.90	0.93	2.83
60+	1.69	1.20	2.89	0.51	0.20	0.71	2.21	1.39	3.60
Total	17.92	11.25	29.17	17.31	4.97	22.27	35.23	16.22	51.45

Source: ibid

Projected Age-Sex MCWS Labour Force of Maharashtra in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.03	0.03
15-19	1.02	0.63	1.64	0.94	0.32	1.26	1.96	0.95	2.91
20-24	2.22	1.13	3.35	2.45	0.76	3.21	4.68	1.89	6.56
25-29	2.72	1.40	4.12	3.10	0.85	3.96	5.82	2.26	8.08
30-34	2.62	0.48	3.11	2.88	0.81	3.69	5.50	1.30	6.80
35-39	2.18	1.73	3.91	2.60	0.95	3.55	4.78	2.68	7.47
40-44	1.88	1.56	3.44	2.25	0.72	2.97	4.12	2.29	6.41
45-49	1.68	1.61	3.30	1.89	0.47	2.36	3.57	2.09	5.66
50-54	1.54	1.20	2.74	1.54	0.44	1.98	3.08	1.64	4.72
55-59	1.23	0.99	2.22	1.06	0.22	1.29	2.29	1.22	3.51
60+	1.94	1.42	3.36	0.57	0.24	0.81	2.51	1.66	4.17
Total	19.04	12.17	31.20	19.28	5.83	25.12	38.32	18.00	56.32

Source: ibid

Projected Age-Sex MCWS Labour Force of Madhya Pradesh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
10-14	0.08	0.13	0.21	0.04	0.02	0.05	0.11	0.15	0.27
15-19	1.46	0.72	2.18	0.38	0.07	0.45	1.83	0.79	2.62
20-24	2.05	0.61	2.66	0.74	0.14	0.88	2.79	0.76	3.55
25-29	1.76	0.75	2.52	0.87	0.15	1.02	2.63	0.91	3.54
30-34	1.58	0.89	2.47	0.76	0.15	0.91	2.34	1.04	3.38
35-39	1.48	0.90	2.38	0.67	0.17	0.84	2.15	1.07	3.22
40-44	1.32	0.76	2.08	0.59	0.14	0.73	1.91	0.90	2.81
45-49	1.07	0.53	1.61	0.50	0.11	0.61	1.57	0.64	2.22
50-54	0.81	0.40	1.21	0.39	0.08	0.47	1.20	0.48	1.68
55-59	0.61	0.29	0.90	0.24	0.05	0.29	0.85	0.34	1.19
60+	0.99	0.39	1.38	0.27	0.07	0.34	1.26	0.46	1.72
Total	13.21	6.39	19.60	5.44	1.15	6.60	18.65	7.55	26.20

Source: ibid

Projected Age-Sex MCWS Labour Force of Madhya Pradesh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.03	0.03	0.03	0.01	0.04	0.03	0.04	0.07
15-19	1.41	0.70	2.11	0.38	0.08	0.45	1.79	0.77	2.56
20-24	2.45	0.67	3.11	0.81	0.19	0.99	3.25	0.85	4.11
25-29	2.10	0.78	2.88	1.03	0.19	1.23	3.13	0.98	4.11
30-34	1.70	0.87	2.57	0.93	0.17	1.10	2.62	1.04	3.66
35-39	1.52	0.95	2.47	0.79	0.20	0.98	2.31	1.14	3.45
40-44	1.43	0.87	2.29	0.66	0.15	0.82	2.09	1.02	3.11
45-49	1.27	0.65	1.92	0.58	0.13	0.71	1.85	0.78	2.63
50-54	0.99	0.49	1.48	0.50	0.10	0.60	1.49	0.59	2.07
55-59	0.73	0.34	1.08	0.31	0.06	0.37	1.05	0.40	1.45
60+	1.11	0.46	1.57	0.32	0.08	0.41	1.43	0.54	1.97
Total	14.70	6.79	21.49	6.34	1.36	7.70	21.04	8.15	29.19

Source: ibid

Projected Age-Sex MCWS Labour Force of Madhya Pradesh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.02	0.01	0.03	0.02	0.01	0.03
15-19	1.28	0.61	1.89	0.37	0.08	0.45	1.66	0.69	2.34
20-24	2.56	0.63	3.19	0.81	0.20	1.01	3.37	0.83	4.20
25-29	2.54	0.94	3.48	1.14	0.22	1.36	3.68	1.16	4.84
30-34	2.03	0.94	2.97	1.09	0.20	1.29	3.12	1.14	4.26
35-39	1.64	0.95	2.59	0.95	0.22	1.17	2.59	1.17	3.76
40-44	1.48	0.92	2.40	0.77	0.16	0.93	2.25	1.08	3.33
45-49	1.37	0.74	2.11	0.64	0.14	0.78	2.01	0.88	2.89
50-54	1.17	0.60	1.78	0.59	0.11	0.71	1.77	0.72	2.48
55-59	0.90	0.42	1.32	0.38	0.08	0.46	1.29	0.49	1.78
60+	1.29	0.54	1.83	0.40	0.10	0.50	1.68	0.64	2.33
Total	16.28	7.29	23.57	7.15	1.52	8.67	23.43	8.81	32.24

Source: ibid

Projected Age-Sex MCWS Labour Force of Other NE States in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.03	0.01	0.04	0.00	0.01	0.01	0.03	0.02	0.05
15-19	0.22	0.12	0.34	0.02	0.02	0.04	0.24	0.14	0.38
20-24	0.40	0.24	0.64	0.08	0.05	0.13	0.48	0.29	0.77
25-29	0.42	0.22	0.64	0.13	0.05	0.18	0.55	0.27	0.82
30-34	0.37	0.20	0.58	0.13	0.05	0.18	0.50	0.25	0.75
35-39	0.34	0.16	0.50	0.12	0.04	0.16	0.45	0.20	0.66
40-44	0.30	0.15	0.45	0.10	0.03	0.14	0.41	0.19	0.59
45-49	0.25	0.13	0.38	0.09	0.03	0.12	0.34	0.16	0.50
50-54	0.20	0.09	0.29	0.07	0.02	0.09	0.27	0.12	0.38
55-59	0.15	0.08	0.22	0.05	0.01	0.06	0.19	0.09	0.28
60+	0.23	0.10	0.33	0.03	0.01	0.04	0.26	0.11	0.37
Total	2.91	1.50	4.41	0.82	0.33	1.15	3.73	1.84	5.56

Source: ibid

Projected Age-Sex MCWS Labour Force of Other NE States in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.03	0.01	0.04	0.00	0.01	0.01	0.04	0.01	0.05
15-19	0.22	0.11	0.33	0.02	0.02	0.04	0.24	0.13	0.37
20-24	0.46	0.28	0.75	0.09	0.05	0.14	0.55	0.33	0.88
25-29	0.51	0.26	0.77	0.15	0.06	0.21	0.66	0.33	0.98
30-34	0.43	0.24	0.67	0.15	0.06	0.20	0.58	0.29	0.87
35-39	0.37	0.19	0.56	0.13	0.05	0.18	0.50	0.24	0.74
40-44	0.33	0.18	0.51	0.12	0.04	0.16	0.45	0.22	0.67
45-49	0.29	0.16	0.45	0.10	0.04	0.14	0.39	0.20	0.59
50-54	0.24	0.13	0.37	0.08	0.03	0.11	0.32	0.16	0.48
55-59	0.18	0.11	0.29	0.06	0.02	0.08	0.24	0.12	0.37
60+	0.29	0.14	0.43	0.03	0.02	0.05	0.33	0.16	0.48
Total	3.35	1.81	5.17	0.93	0.39	1.32	4.29	2.20	6.49

Source: ibid

Projected Age-Sex MCWS Labour Force of Other NE States in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.03	0.00	0.03	0.00	0.01	0.01	0.03	0.01	0.04
15-19	0.21	0.11	0.32	0.02	0.02	0.04	0.23	0.13	0.36
20-24	0.45	0.29	0.74	0.09	0.05	0.14	0.54	0.34	0.88
25-29	0.58	0.31	0.89	0.16	0.07	0.23	0.74	0.38	1.12
30-34	0.51	0.29	0.80	0.17	0.06	0.23	0.68	0.35	1.03
35-39	0.42	0.22	0.64	0.15	0.06	0.21	0.57	0.28	0.85
40-44	0.36	0.22	0.58	0.13	0.05	0.18	0.49	0.26	0.76
45-49	0.31	0.20	0.51	0.12	0.05	0.16	0.43	0.24	0.67
50-54	0.28	0.17	0.44	0.10	0.04	0.13	0.37	0.20	0.58
55-59	0.22	0.15	0.37	0.07	0.03	0.10	0.29	0.17	0.47
60+	0.38	0.19	0.57	0.04	0.03	0.07	0.42	0.22	0.63
Total	3.75	2.13	5.88	1.04	0.46	1.50	4.80	2.59	7.39

Source: ibid

Projected Age-Sex MCWS Labour Force of Orissa in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.10	0.08	0.18	0.01	0.01	0.02	0.11	0.09	0.19
15-19	1.05	0.48	1.54	0.11	0.04	0.15	1.17	0.52	1.69
20-24	1.27	0.40	1.67	0.24	0.06	0.30	1.51	0.46	1.97
25-29	1.21	0.47	1.67	0.31	0.07	0.38	1.52	0.54	2.06
30-34	1.14	0.44	1.58	0.28	0.06	0.35	1.42	0.51	1.93
35-39	1.08	0.45	1.53	0.26	0.05	0.31	1.34	0.50	1.84
40-44	0.99	0.44	1.43	0.23	0.06	0.29	1.22	0.50	1.72
45-49	0.85	0.32	1.17	0.20	0.04	0.23	1.04	0.36	1.40
50-54	0.66	0.24	0.90	0.15	0.03	0.18	0.82	0.26	1.08
55-59	0.49	0.12	0.61	0.07	0.02	0.09	0.56	0.14	0.70
60+	0.70	0.20	0.90	0.05	0.02	0.07	0.76	0.22	0.97
Total	9.53	3.65	13.18	1.92	0.45	2.37	11.46	4.10	15.55

Source: ibid

Projected Age-Sex MCWS Labour Force of Orissa in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.02	0.02	0.01	0.00	0.01	0.01	0.03	0.03
15-19	1.02	0.48	1.50	0.11	0.04	0.15	1.13	0.51	1.65
20-24	1.43	0.45	1.89	0.25	0.08	0.33	1.68	0.53	2.21
25-29	1.31	0.50	1.81	0.34	0.10	0.44	1.65	0.60	2.25
30-34	1.16	0.46	1.62	0.33	0.08	0.41	1.48	0.54	2.02
35-39	1.09	0.49	1.58	0.30	0.05	0.35	1.39	0.54	1.94
40-44	1.02	0.51	1.53	0.26	0.08	0.34	1.28	0.59	1.87
45-49	0.94	0.40	1.33	0.23	0.05	0.27	1.16	0.44	1.60
50-54	0.78	0.30	1.07	0.19	0.04	0.23	0.96	0.34	1.30
55-59	0.58	0.14	0.72	0.09	0.02	0.10	0.67	0.16	0.83
60+	0.77	0.23	0.99	0.05	0.03	0.08	0.82	0.25	1.07
Total	10.10	3.97	14.08	2.15	0.56	2.71	12.25	4.53	16.78

Source: ibid

Projected Age-Sex MCWS Labour Force of Orissa in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.92	0.43	1.35	0.11	0.04	0.15	1.02	0.47	1.50
20-24	1.45	0.44	1.89	0.25	0.08	0.33	1.70	0.52	2.22
25-29	1.51	0.55	2.06	0.37	0.12	0.48	1.87	0.67	2.55
30-34	1.28	0.50	1.78	0.36	0.09	0.45	1.64	0.59	2.23
35-39	1.13	0.52	1.65	0.34	0.06	0.40	1.47	0.58	2.05
40-44	1.05	0.56	1.61	0.29	0.10	0.40	1.35	0.66	2.01
45-49	0.98	0.46	1.44	0.25	0.05	0.30	1.23	0.51	1.75
50-54	0.88	0.37	1.25	0.22	0.05	0.26	1.09	0.42	1.51
55-59	0.70	0.16	0.86	0.10	0.02	0.12	0.79	0.18	0.98
60+	0.87	0.26	1.14	0.05	0.03	0.08	0.92	0.30	1.22
Total	10.76	4.27	15.03	2.35	0.64	2.99	13.11	4.91	18.02

Source: ibid

Projected Age-Sex MCWS Labour Force of Other States in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
15-19	0.05	0.03	0.08	0.27	0.04	0.31	0.32	0.07	0.39
20-24	0.16	0.03	0.20	0.90	0.12	1.02	1.06	0.16	1.22
25-29	0.16	0.03	0.19	0.96	0.16	1.12	1.12	0.19	1.31
30-34	0.13	0.03	0.15	0.84	0.16	0.99	0.97	0.18	1.15
35-39	0.11	0.01	0.13	0.80	0.14	0.94	0.91	0.16	1.07
40-44	0.08	0.02	0.10	0.65	0.14	0.79	0.74	0.15	0.89
45-49	0.07	0.02	0.08	0.50	0.08	0.58	0.57	0.09	0.66
50-54	0.05	0.01	0.06	0.35	0.02	0.37	0.40	0.03	0.43
55-59	0.03	0.01	0.04	0.20	0.01	0.21	0.23	0.02	0.25
60+	0.04	0.02	0.06	0.18	0.01	0.19	0.22	0.03	0.25
Total	0.88	0.20	1.08	5.66	0.89	6.55	6.54	1.09	7.63

Source: ibid

Projected Age-Sex MCWS Labour Force of Other States in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.05	0.03	0.08	0.29	0.04	0.34	0.34	0.08	0.42
20-24	0.20	0.05	0.26	1.09	0.15	1.24	1.30	0.20	1.50
25-29	0.18	0.05	0.23	1.17	0.18	1.36	1.35	0.23	1.58
30-34	0.14	0.03	0.17	1.03	0.15	1.18	1.17	0.18	1.35
35-39	0.12	0.01	0.14	1.01	0.18	1.19	1.13	0.20	1.33
40-44	0.09	0.03	0.12	0.84	0.19	1.03	0.93	0.22	1.15
45-49	0.07	0.02	0.09	0.65	0.10	0.75	0.72	0.12	0.84
50-54	0.05	0.02	0.07	0.44	0.02	0.47	0.49	0.04	0.53
55-59	0.03	0.01	0.04	0.23	0.01	0.24	0.26	0.02	0.28
60+	0.05	0.02	0.07	0.19	0.00	0.19	0.24	0.02	0.26
Total	0.99	0.26	1.25	6.94	1.04	7.99	7.93	1.31	9.24

Source: ibid

Projected Age-Sex MCWS Labour Force of Other States in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.04	0.04	0.08	0.28	0.05	0.32	0.32	0.08	0.40
20-24	0.24	0.07	0.31	1.26	0.17	1.42	1.50	0.23	1.73
25-29	0.20	0.06	0.26	1.33	0.20	1.53	1.53	0.26	1.79
30-34	0.15	0.04	0.20	1.17	0.18	1.35	1.32	0.22	1.54
35-39	0.13	0.02	0.15	1.17	0.22	1.39	1.30	0.24	1.54
40-44	0.10	0.03	0.12	0.99	0.22	1.21	1.09	0.25	1.34
45-49	0.08	0.02	0.09	0.77	0.11	0.88	0.84	0.13	0.97
50-54	0.05	0.01	0.07	0.51	0.02	0.53	0.56	0.04	0.60
55-59	0.03	0.01	0.04	0.27	0.01	0.27	0.30	0.02	0.31
60+	0.06	0.02	0.08	0.24	0.00	0.24	0.29	0.02	0.32
Total	1.08	0.32	1.40	7.98	1.17	9.15	9.06	1.49	10.55

Source: ibid

Projected Age-Sex MCWS Labour Force of Punjab in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.03	0.02	0.06	0.02	0.00	0.02	0.05	0.02	0.07
15-19	0.50	0.25	0.74	0.21	0.04	0.24	0.70	0.28	0.99
20-24	0.78	0.34	1.12	0.49	0.10	0.59	1.27	0.44	1.72
25-29	0.69	0.33	1.02	0.52	0.11	0.63	1.21	0.44	1.65
30-34	0.59	0.34	0.93	0.44	0.08	0.53	1.03	0.42	1.46
35-39	0.53	0.38	0.91	0.38	0.08	0.46	0.91	0.46	1.37
40-44	0.49	0.33	0.83	0.34	0.07	0.41	0.83	0.41	1.24
45-49	0.43	0.26	0.69	0.30	0.04	0.34	0.73	0.30	1.03
50-54	0.34	0.19	0.53	0.23	0.05	0.28	0.57	0.24	0.81
55-59	0.26	0.15	0.41	0.16	0.02	0.18	0.42	0.17	0.59
60+	0.49	0.21	0.69	0.15	0.02	0.17	0.64	0.23	0.86
Total	5.13	2.79	7.92	3.24	0.63	3.87	8.37	3.42	11.79

Source: ibid

Projected Age-Sex MCWS Labour Force of Punjab in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
15-19	0.42	0.25	0.67	0.19	0.03	0.22	0.61	0.29	0.90
20-24	0.79	0.40	1.18	0.54	0.12	0.66	1.33	0.52	1.85
25-29	0.75	0.39	1.13	0.62	0.14	0.76	1.37	0.53	1.90
30-34	0.67	0.41	1.07	0.55	0.11	0.66	1.22	0.51	1.73
35-39	0.55	0.45	1.00	0.47	0.10	0.57	1.02	0.55	1.57
40-44	0.50	0.42	0.91	0.39	0.08	0.47	0.89	0.50	1.38
45-49	0.47	0.35	0.83	0.34	0.05	0.39	0.81	0.41	1.22
50-54	0.40	0.27	0.67	0.28	0.06	0.34	0.68	0.33	1.02
55-59	0.32	0.21	0.53	0.21	0.04	0.25	0.53	0.25	0.78
60+	0.54	0.26	0.80	0.17	0.03	0.20	0.71	0.29	1.00
Total	5.41	3.40	8.81	3.77	0.76	4.54	9.18	4.16	13.35

Source: ibid

Projected Age-Sex MCWS Labour Force of Punjab in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.32	0.24	0.56	0.17	0.03	0.20	0.49	0.27	0.76
20-24	0.70	0.37	1.07	0.58	0.12	0.70	1.27	0.50	1.77
25-29	0.77	0.43	1.20	0.68	0.16	0.85	1.46	0.59	2.05
30-34	0.75	0.50	1.25	0.64	0.12	0.76	1.39	0.62	2.01
35-39	0.64	0.54	1.18	0.57	0.12	0.68	1.20	0.66	1.86
40-44	0.53	0.49	1.03	0.46	0.09	0.55	1.00	0.58	1.58
45-49	0.48	0.44	0.92	0.38	0.06	0.43	0.86	0.50	1.36
50-54	0.44	0.36	0.81	0.31	0.07	0.38	0.76	0.44	1.19
55-59	0.38	0.30	0.68	0.25	0.04	0.29	0.63	0.34	0.97
60+	0.62	0.34	0.96	0.20	0.03	0.23	0.82	0.37	1.19
Total	5.64	4.02	9.66	4.25	0.84	5.09	9.89	4.87	14.75

Source: ibid

Projected Age-Sex MCWS Labour Force of Rajasthan in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.14	0.29	0.42	0.07	0.01	0.08	0.21	0.30	0.51
15-19	1.34	0.99	2.34	0.32	0.13	0.45	1.66	1.12	2.78
20-24	2.07	1.04	3.11	0.64	0.15	0.79	2.71	1.19	3.90
25-29	1.75	0.99	2.74	0.69	0.14	0.84	2.45	1.13	3.58
30-34	1.52	0.96	2.48	0.61	0.16	0.77	2.13	1.12	3.24
35-39	1.38	0.94	2.32	0.52	0.15	0.67	1.90	1.08	2.99
40-44	1.24	0.77	2.01	0.47	0.13	0.60	1.71	0.90	2.61
45-49	1.03	0.63	1.66	0.39	0.09	0.49	1.43	0.72	2.15
50-54	0.82	0.44	1.26	0.30	0.06	0.36	1.12	0.50	1.62
55-59	0.61	0.31	0.92	0.20	0.04	0.23	0.81	0.35	1.16
60+	0.93	0.42	1.35	0.17	0.05	0.22	1.10	0.47	1.57
Total	12.84	7.78	20.62	4.38	1.11	5.49	17.22	8.88	26.11

Source: ibid

Projected Age-Sex MCWS Labour Force of Rajasthan in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.12	0.12	0.07	0.00	0.07	0.07	0.13	0.19
15-19	1.33	1.04	2.37	0.32	0.12	0.44	1.65	1.16	2.81
20-24	2.52	1.24	3.76	0.71	0.18	0.89	3.23	1.42	4.65
25-29	2.15	1.11	3.26	0.80	0.16	0.97	2.95	1.27	4.23
30-34	1.71	1.01	2.72	0.73	0.21	0.95	2.44	1.23	3.67
35-39	1.48	1.03	2.51	0.60	0.18	0.78	2.08	1.21	3.29
40-44	1.35	0.88	2.23	0.53	0.15	0.68	1.87	1.03	2.91
45-49	1.19	0.76	1.95	0.45	0.12	0.57	1.64	0.88	2.52
50-54	0.98	0.55	1.53	0.38	0.08	0.45	1.36	0.62	1.98
55-59	0.74	0.39	1.13	0.25	0.05	0.30	0.99	0.44	1.43
60+	1.09	0.52	1.61	0.19	0.06	0.25	1.28	0.57	1.85
Total	14.54	8.64	23.18	5.03	1.32	6.35	19.57	9.96	29.53

Source: ibid

Projected Age-Sex MCWS Labour Force of Rajasthan in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.06	0.00	0.06	0.06	0.00	0.06
15-19	1.20	0.98	2.18	0.31	0.12	0.43	1.51	1.10	2.61
20-24	2.75	1.38	4.14	0.72	0.19	0.91	3.47	1.57	5.05
25-29	2.68	1.39	4.06	0.88	0.19	1.07	3.55	1.58	5.13
30-34	2.10	1.16	3.26	0.84	0.24	1.08	2.94	1.40	4.34
35-39	1.67	1.09	2.75	0.72	0.20	0.92	2.38	1.29	3.67
40-44	1.44	0.96	2.40	0.61	0.16	0.77	2.05	1.12	3.17
45-49	1.29	0.87	2.16	0.50	0.13	0.63	1.79	1.00	2.79
50-54	1.13	0.66	1.79	0.43	0.09	0.52	1.56	0.75	2.31
55-59	0.88	0.47	1.35	0.31	0.06	0.37	1.19	0.53	1.72
60+	1.30	0.63	1.93	0.22	0.07	0.28	1.51	0.70	2.21
Total	16.44	9.59	26.03	5.59	1.46	7.05	22.03	11.05	33.08

Source: ibid

Projected Age-Sex MCWS Labour Force of Tamil Nadu in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.01	0.01	0.02	0.03	0.05	0.02	0.04	0.06
15-19	0.67	0.59	1.25	0.60	0.30	0.90	1.26	0.89	2.15
20-24	1.18	0.66	1.84	1.44	0.52	1.96	2.62	1.18	3.81
25-29	1.22	0.68	1.90	1.56	0.51	2.07	2.78	1.19	3.97
30-34	1.16	0.86	2.01	1.43	0.57	2.00	2.58	1.43	4.01
35-39	1.07	0.89	1.96	1.30	0.48	1.78	2.37	1.37	3.74
40-44	1.02	0.88	1.90	1.15	0.40	1.55	2.18	1.28	3.46
45-49	0.93	0.77	1.70	0.99	0.34	1.33	1.92	1.11	3.03
50-54	0.80	0.64	1.44	0.81	0.27	1.07	1.60	0.91	2.51
55-59	0.62	0.47	1.09	0.54	0.15	0.68	1.16	0.61	1.77
60+	1.01	0.62	1.63	0.47	0.19	0.66	1.47	0.82	2.29
Total	9.67	7.08	16.75	10.31	3.75	14.06	19.98	10.83	30.81

Source: ibid

Projected Age-Sex MCWS Labour Force of Tamil Nadu in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
15-19	0.46	0.45	0.91	0.57	0.31	0.88	1.03	0.77	1.80
20-24	0.87	0.50	1.37	1.62	0.63	2.25	2.50	1.13	3.62
25-29	1.07	0.47	1.54	1.82	0.62	2.43	2.89	1.08	3.98
30-34	1.12	0.79	1.91	1.64	0.71	2.35	2.76	1.51	4.27
35-39	1.02	0.92	1.93	1.53	0.63	2.16	2.54	1.55	4.09
40-44	0.97	0.95	1.91	1.34	0.46	1.81	2.31	1.41	3.72
45-49	0.93	0.91	1.84	1.17	0.43	1.60	2.10	1.34	3.44
50-54	0.84	0.77	1.61	0.94	0.32	1.27	1.78	1.09	2.88
55-59	0.69	0.57	1.26	0.65	0.18	0.83	1.34	0.75	2.09
60+	1.12	0.79	1.91	0.53	0.23	0.76	1.65	1.02	2.67
Total	9.09	7.12	16.21	11.81	4.54	16.36	20.90	11.66	32.57

Source: ibid

Projected Age-Sex MCWS Labour Force of Tamil Nadu in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.27	0.31	0.58	0.55	0.33	0.88	0.81	0.65	1.46
20-24	0.45	0.27	0.73	1.85	0.70	2.54	2.30	0.97	3.27
25-29	0.84	0.21	1.05	2.01	0.71	2.72	2.85	0.92	3.77
30-34	1.06	0.65	1.71	1.81	0.76	2.57	2.87	1.42	4.28
35-39	1.01	0.91	1.92	1.72	0.69	2.41	2.72	1.60	4.33
40-44	0.95	1.02	1.98	1.52	0.53	2.05	2.47	1.55	4.02
45-49	0.91	1.01	1.91	1.32	0.49	1.81	2.23	1.50	3.72
50-54	0.86	0.92	1.79	1.09	0.37	1.46	1.95	1.30	3.25
55-59	0.75	0.68	1.43	0.76	0.22	0.98	1.51	0.90	2.41
60+	1.26	1.00	2.26	0.61	0.27	0.88	1.87	1.28	3.14
Total	8.36	7.00	15.36	13.23	5.07	18.29	21.59	12.07	33.65

Source: ibid

Projected Age-Sex MCWS Labour Force of Uttar Pradesh in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.03	0.00	0.03	0.02	0.01	0.04	0.05	0.02	0.07
10-14	0.44	0.31	0.75	0.23	0.07	0.31	0.68	0.38	1.06
15-19	3.96	1.41	5.37	0.98	0.18	1.16	4.94	1.59	6.52
20-24	5.76	1.08	6.84	1.76	0.20	1.96	7.52	1.28	8.80
25-29	5.04	1.15	6.19	1.77	0.24	2.01	6.81	1.39	8.20
30-34	4.32	1.58	5.90	1.52	0.19	1.71	5.84	1.77	7.61
35-39	3.96	1.85	5.81	1.29	0.20	1.50	5.26	2.05	7.31
40-44	3.58	1.62	5.20	1.15	0.22	1.38	4.74	1.84	6.58
45-49	3.07	1.42	4.48	1.00	0.17	1.17	4.07	1.59	5.66
50-54	2.47	1.00	3.47	0.85	0.13	0.98	3.32	1.13	4.45
55-59	1.92	0.86	2.77	0.56	0.10	0.67	2.48	0.96	3.44
60+	3.73	1.17	4.90	0.55	0.11	0.66	4.28	1.28	5.56
Total	38.28	13.44	51.72	11.69	1.84	13.52	49.97	15.27	65.24

Source: ibid

Projected Age-Sex MCWS Labour Force of Uttar Pradesh in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.03	0.01	0.05	0.03	0.01	0.05
10-14	0.14	0.18	0.31	0.21	0.03	0.24	0.34	0.20	0.55
15-19	3.87	1.68	5.55	0.88	0.20	1.08	4.76	1.88	6.63
20-24	7.17	1.47	8.64	1.90	0.26	2.17	9.07	1.74	10.81
25-29	6.29	1.33	7.62	2.14	0.30	2.44	8.43	1.63	10.06
30-34	4.82	1.67	6.49	1.95	0.24	2.18	6.77	1.91	8.68
35-39	4.11	2.05	6.16	1.57	0.23	1.80	5.68	2.28	7.96
40-44	3.76	1.95	5.70	1.28	0.25	1.54	5.04	2.20	7.24
45-49	3.45	1.80	5.26	1.10	0.18	1.28	4.56	1.98	6.54
50-54	2.86	1.28	4.14	1.01	0.17	1.18	3.87	1.45	5.32
55-59	2.25	1.10	3.35	0.71	0.14	0.85	2.97	1.24	4.20
60+	4.29	1.51	5.81	0.65	0.14	0.79	4.94	1.66	6.60
Total	43.01	16.02	59.04	13.44	2.16	15.60	56.46	18.18	74.64

Source: ibid

Projected Age-Sex MCWS Labour Force of Uttar Pradesh in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.04	0.00	0.04	0.04	0.00	0.04
10-14	0.00	0.05	0.05	0.23	0.00	0.23	0.23	0.05	0.28
15-19	3.36	1.77	5.13	0.79	0.18	0.97	4.14	1.95	6.09
20-24	7.51	1.74	9.24	1.82	0.26	2.08	9.33	2.00	11.33
25-29	8.04	1.73	9.77	2.33	0.34	2.67	10.36	2.07	12.44
30-34	6.05	1.97	8.02	2.35	0.28	2.64	8.40	2.25	10.65
35-39	4.60	2.21	6.80	1.98	0.27	2.25	6.57	2.48	9.05
40-44	3.92	2.17	6.09	1.54	0.28	1.82	5.46	2.44	7.91
45-49	3.64	2.18	5.82	1.20	0.20	1.40	4.84	2.38	7.22
50-54	3.23	1.63	4.86	1.12	0.19	1.32	4.35	1.82	6.17
55-59	2.62	1.41	4.03	0.84	0.17	1.02	3.46	1.59	5.05
60+	5.02	1.96	6.98	0.78	0.18	0.95	5.80	2.14	7.93
Total	47.97	18.81	66.78	15.03	2.35	17.38	63.00	21.17	84.16

Source: ibid

Projected Age-Sex MCWS Labour Force of Uttarakhand in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.02	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.02
15-19	0.11	0.10	0.21	0.05	0.01	0.05	0.16	0.11	0.26
20-24	0.28	0.16	0.44	0.11	0.02	0.13	0.39	0.18	0.57
25-29	0.24	0.14	0.38	0.12	0.02	0.14	0.36	0.16	0.53
30-34	0.19	0.14	0.33	0.11	0.02	0.13	0.30	0.16	0.47
35-39	0.17	0.13	0.30	0.10	0.02	0.12	0.27	0.15	0.43
40-44	0.16	0.10	0.26	0.09	0.01	0.09	0.25	0.11	0.36
45-49	0.14	0.08	0.22	0.07	0.02	0.09	0.22	0.10	0.32
50-54	0.12	0.08	0.20	0.06	0.01	0.07	0.18	0.10	0.27
55-59	0.09	0.08	0.17	0.04	0.01	0.05	0.14	0.08	0.22
60+	0.20	0.12	0.31	0.03	0.01	0.04	0.23	0.12	0.35
Total	1.73	1.13	2.86	0.79	0.15	0.93	2.52	1.28	3.80

Source: ibid

Projected Age-Sex MCWS Labour Force of Uttarakhand in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
15-19	0.08	0.10	0.18	0.04	0.01	0.05	0.12	0.10	0.23
20-24	0.31	0.18	0.49	0.12	0.02	0.14	0.43	0.20	0.63
25-29	0.31	0.16	0.47	0.14	0.03	0.17	0.45	0.19	0.63
30-34	0.23	0.16	0.39	0.14	0.02	0.16	0.37	0.18	0.55
35-39	0.18	0.14	0.33	0.11	0.03	0.14	0.30	0.17	0.47
40-44	0.17	0.11	0.28	0.10	0.01	0.11	0.27	0.12	0.39
45-49	0.15	0.10	0.25	0.08	0.02	0.11	0.24	0.12	0.35
50-54	0.13	0.09	0.23	0.07	0.02	0.09	0.20	0.11	0.32
55-59	0.11	0.09	0.19	0.05	0.01	0.06	0.16	0.09	0.26
60+	0.22	0.13	0.36	0.05	0.01	0.06	0.27	0.14	0.41
Total	1.90	1.26	3.17	0.91	0.17	1.08	2.81	1.44	4.25

Source: ibid

Projected Age-Sex MCWS Labour Force of Uttarakhand in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-19	0.05	0.09	0.14	0.04	0.01	0.04	0.09	0.10	0.18
20-24	0.31	0.23	0.54	0.12	0.02	0.14	0.42	0.26	0.68
25-29	0.36	0.24	0.60	0.15	0.03	0.18	0.50	0.27	0.78
30-34	0.30	0.23	0.53	0.16	0.03	0.18	0.46	0.26	0.71
35-39	0.22	0.19	0.42	0.14	0.03	0.17	0.36	0.23	0.59
40-44	0.18	0.16	0.34	0.11	0.01	0.13	0.29	0.17	0.46
45-49	0.16	0.14	0.30	0.09	0.02	0.12	0.25	0.17	0.42
50-54	0.14	0.13	0.28	0.08	0.02	0.10	0.23	0.15	0.38
55-59	0.12	0.12	0.24	0.07	0.01	0.08	0.19	0.13	0.31
60+	0.25	0.21	0.46	0.07	0.01	0.08	0.32	0.22	0.55
Total	2.10	1.75	3.85	1.02	0.20	1.22	3.12	1.95	5.07

Source: ibid

Projected Age-Sex MCWS Labour Force of West Bengal in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01
10-14	0.22	0.15	0.37	0.10	0.05	0.15	0.31	0.20	0.52
15-19	1.83	0.51	2.34	0.40	0.17	0.58	2.23	0.68	2.92
20-24	2.57	0.48	3.05	0.92	0.28	1.20	3.49	0.76	4.25
25-29	2.43	0.53	2.96	1.12	0.24	1.36	3.55	0.78	4.32
30-34	2.28	0.60	2.88	1.08	0.23	1.31	3.36	0.83	4.19
35-39	2.15	0.58	2.73	1.02	0.21	1.24	3.17	0.79	3.96
40-44	1.98	0.40	2.37	0.96	0.19	1.15	2.94	0.58	3.52
45-49	1.64	0.32	1.95	0.85	0.11	0.96	2.49	0.42	2.91
50-54	1.22	0.23	1.44	0.71	0.09	0.81	1.93	0.32	2.25
55-59	0.86	0.08	0.94	0.52	0.06	0.58	1.39	0.14	1.52
60+	1.11	0.13	1.24	0.35	0.02	0.37	1.46	0.16	1.62
Total	18.28	4.01	22.29	8.04	1.66	9.71	26.32	5.67	31.99

Source: ibid

Projected Age-Sex MCWS Labour Force of West Bengal in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
10-14	0.11	0.14	0.25	0.09	0.04	0.13	0.20	0.18	0.38
15-19	1.79	0.54	2.32	0.34	0.17	0.51	2.13	0.70	2.83
20-24	2.99	0.58	3.57	0.91	0.29	1.20	3.89	0.87	4.76
25-29	2.78	0.59	3.37	1.18	0.27	1.45	3.96	0.86	4.82
30-34	2.38	0.63	3.01	1.17	0.26	1.42	3.54	0.89	4.44
35-39	2.19	0.65	2.84	1.09	0.23	1.32	3.28	0.87	4.16
40-44	2.12	0.48	2.59	1.02	0.21	1.22	3.14	0.68	3.82
45-49	1.89	0.43	2.33	0.93	0.12	1.05	2.82	0.55	3.38
50-54	1.52	0.29	1.80	0.82	0.11	0.93	2.33	0.40	2.73
55-59	1.10	0.08	1.18	0.64	0.08	0.72	1.75	0.15	1.90
60+	1.34	0.17	1.51	0.38	0.01	0.39	1.72	0.18	1.89
Total	20.21	4.56	24.77	8.55	1.79	10.34	28.76	6.35	35.11

Source: ibid

Projected Age-Sex MCWS Labour Force of West Bengal in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
10-14	0.00	0.11	0.11	0.09	0.04	0.12	0.09	0.15	0.23
15-19	1.62	0.52	2.15	0.28	0.16	0.44	1.91	0.68	2.59
20-24	3.00	0.61	3.61	0.83	0.28	1.12	3.83	0.89	4.72
25-29	3.24	0.73	3.97	1.19	0.29	1.47	4.43	1.02	5.45
30-34	2.74	0.70	3.44	1.23	0.27	1.50	3.97	0.97	4.94
35-39	2.31	0.67	2.98	1.16	0.23	1.40	3.47	0.91	4.38
40-44	2.18	0.52	2.70	1.08	0.22	1.30	3.26	0.74	4.00
45-49	2.04	0.49	2.53	0.98	0.13	1.11	3.02	0.62	3.64
50-54	1.77	0.36	2.13	0.89	0.13	1.02	2.66	0.49	3.15
55-59	1.38	0.06	1.44	0.73	0.09	0.83	2.11	0.16	2.27
60+	1.67	0.21	1.88	0.41	0.00	0.41	2.07	0.21	2.28
Total	21.94	4.99	26.93	8.88	1.84	10.73	30.83	6.83	37.66

Source: ibid

Projected Age-Sex MCWS Labour Force of India in 2007 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.04	0.04	0.08	0.04	0.02	0.06	0.08	0.06	0.14
10-14	2.15	2.05	4.20	0.71	0.35	1.06	2.86	2.40	5.26
15-19	21.98	10.28	32.26	6.35	1.89	8.24	28.33	12.17	40.50
20-24	32.50	11.47	43.97	13.81	3.45	17.26	46.31	14.92	61.23
25-29	29.48	11.85	41.33	15.77	3.46	19.23	45.25	15.31	60.56
30-34	26.35	12.34	38.69	14.24	3.47	17.71	40.59	15.81	56.40
35-39	24.44	13.59	38.02	12.66	3.49	16.15	37.09	17.08	54.17
40-44	22.38	12.01	34.39	11.15	2.98	14.14	33.53	14.99	48.53
45-49	19.03	9.69	28.72	9.51	2.12	11.63	28.54	11.82	40.36
50-54	15.12	6.94	22.06	7.50	1.60	9.10	22.63	8.54	31.17
55-59	11.28	5.14	16.42	4.87	0.95	5.82	16.15	6.09	22.24
60+	18.04	6.72	24.76	4.01	1.01	5.02	22.05	7.73	29.78
Total	222.79	102.12	324.91	100.61	24.80	125.41	323.40	126.92	450.32

Source: ibid

Projected Age-Sex MCWS Labour Force of India in 2012 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.05	0.02	0.07	0.05	0.02	0.07
10-14	0.67	1.02	1.68	0.51	0.21	0.72	1.18	1.22	2.40
15-19	20.86	10.07	30.93	5.97	1.89	7.85	26.83	11.96	38.78
20-24	37.43	12.92	50.35	14.92	4.10	19.03	52.35	17.03	69.38
25-29	34.35	12.71	47.06	18.07	4.12	22.19	52.43	16.83	69.26
30-34	28.58	12.90	41.48	16.78	4.13	20.91	45.35	17.03	62.39
35-39	25.35	14.78	40.13	14.79	4.20	18.99	40.13	18.99	59.12
40-44	23.50	13.86	37.36	12.69	3.47	16.16	36.18	17.34	53.52
45-49	21.36	11.95	33.31	10.97	2.55	13.53	32.33	14.50	46.84
50-54	17.71	8.66	26.37	9.01	2.00	11.00	26.72	10.66	37.37
55-59	13.58	6.41	20.00	6.14	1.23	7.38	19.73	7.65	27.37
60+	20.70	8.24	28.94	4.60	1.16	5.76	25.30	9.40	34.70
Total	244.09	113.54	357.63	114.49	29.08	143.58	358.58	142.62	501.20

Source: ibid

Projected Age-Sex MCWS Labour Force of India in 2017 (in million)

Age Group	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
0-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-9	0.00	0.00	0.00	0.06	0.01	0.06	0.06	0.01	0.07
10-14	0.14	0.35	0.49	0.44	0.14	0.59	0.59	0.49	1.08
15-19	18.33	9.20	27.52	5.63	1.86	7.49	23.96	11.06	35.01
20-24	37.54	13.14	50.67	15.42	4.44	19.85	52.95	17.57	70.53
25-29	40.20	14.76	54.97	19.54	4.70	24.24	59.75	19.46	79.21
30-34	33.63	14.52	48.16	18.85	4.62	23.47	52.48	19.14	71.63
35-39	27.66	15.87	43.52	17.11	4.75	21.86	44.77	20.62	65.38
40-44	24.53	15.33	39.87	14.55	3.93	18.48	39.08	19.26	58.34
45-49	22.51	13.95	36.47	12.26	2.90	15.16	34.77	16.85	51.63
50-54	19.97	10.81	30.78	10.28	2.40	12.68	30.25	13.21	43.46
55-59	15.98	8.18	24.17	7.28	1.52	8.79	23.26	9.70	32.96
60+	24.25	10.33	34.58	5.36	1.39	6.75	29.61	11.72	41.33
Total	264.75	126.45	391.20	126.77	32.65	159.42	391.53	159.10	550.63

Source: *ibid*

Annex 5.5: State-wise UPSS Labour Force by Educational Status, Sector and Sex as on 1st April of 2007, 2012 and 2017.

Table 1: Projected Rural UPSS Labour Force by Educational Status, Sector and Sex in 2007 (in million)

State/UT	Rural Male						Rural Female						Rural Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	8.05	4.45	2.66	2.61	0.64	18.41	10.24	2.38	0.87	0.72	0.09	14.30	18.29	6.82	3.53	3.33	0.73	32.70
Assam	1.24	3.12	1.65	0.97	0.18	7.16	0.63	1.15	0.54	0.23	0.03	2.58	1.87	4.26	2.20	1.20	0.21	9.74
Bihar	8.37	5.72	3.15	3.95	0.87	22.06	5.21	0.71	0.25	0.20	0.02	6.39	13.59	6.43	3.40	4.15	0.89	28.45
Chhattisgarh	1.44	1.94	0.87	0.56	0.20	5.01	2.62	1.07	0.26	0.08	0.03	4.07	4.06	3.02	1.12	0.65	0.23	9.08
Gujarat	2.54	3.14	2.65	1.80	0.36	10.49	4.15	1.39	0.80	0.53	0.07	6.94	6.69	4.53	3.45	2.33	0.43	17.43
Haryana	1.12	1.32	0.60	1.24	0.30	4.57	1.48	0.52	0.19	0.29	0.04	2.52	2.60	1.84	0.79	1.52	0.35	7.09
Himachal Pradesh	0.22	0.61	0.26	0.54	0.12	1.75	0.49	0.45	0.16	0.32	0.07	1.50	0.71	1.06	0.42	0.86	0.19	3.25
J&K	0.81	0.47	0.57	0.47	0.10	2.42	0.70	0.25	0.20	0.14	0.02	1.30	1.51	0.72	0.77	0.61	0.12	3.72
Jharkhand	2.33	1.97	1.07	0.75	0.19	6.30	2.64	0.46	0.20	0.08	0.01	3.40	4.96	2.43	1.27	0.83	0.20	9.70
Karnataka	4.15	3.14	2.21	1.54	0.34	11.39	5.06	1.55	0.98	0.46	0.09	8.13	9.21	4.69	3.19	2.01	0.43	19.53
Kerala	0.36	1.91	2.79	1.97	0.35	7.38	0.40	0.98	1.15	1.21	0.35	4.08	0.76	2.89	3.94	3.18	0.70	11.46
Maharashtra	3.61	4.21	4.50	4.13	0.93	17.38	6.51	2.99	2.50	1.24	0.16	13.39	10.11	7.20	7.00	5.36	1.09	30.76
Madhya Pradesh	4.98	4.84	2.06	1.40	0.45	13.73	6.89	1.42	0.31	0.16	0.04	8.81	11.86	6.26	2.37	1.56	0.49	22.55
Orissa	3.17	3.21	2.16	1.07	0.50	10.11	3.71	1.11	0.66	0.23	0.10	5.80	6.87	4.32	2.82	1.30	0.59	15.90
Punjab	1.53	1.37	0.70	1.44	0.16	5.19	1.12	0.66	0.27	0.54	0.05	2.64	2.65	2.02	0.97	1.98	0.22	7.83
Rajasthan	5.05	3.77	2.10	1.62	0.51	13.05	7.62	1.15	0.42	0.21	0.03	9.43	12.67	4.93	2.52	1.82	0.54	22.48
Tamil Nadu	2.48	3.65	1.89	1.51	0.39	9.91	3.85	2.11	0.80	0.63	0.13	7.51	6.33	5.76	2.69	2.13	0.52	17.43
Uttar Pradesh	14.26	9.27	7.94	6.40	2.03	39.89	12.83	2.01	1.08	0.62	0.12	16.67	27.08	11.28	9.02	7.02	2.16	56.56
Uttarakhand	0.42	0.38	0.51	0.44	0.13	1.88	0.73	0.32	0.21	0.20	0.04	1.50	1.15	0.70	0.73	0.63	0.16	3.38
West Bengal	5.48	7.74	2.91	2.01	0.72	18.86	3.00	1.72	0.42	0.28	0.07	5.49	8.48	9.46	3.33	2.29	0.80	24.36
Other NE	0.50	1.19	0.70	0.45	0.15	2.99	0.48	0.69	0.31	0.18	0.05	1.71	0.97	1.88	1.02	0.63	0.20	4.70
Other states	0.12	0.21	0.18	0.32	0.06	0.89	0.11	0.06	0.03	0.06	0.02	0.29	0.23	0.27	0.22	0.38	0.09	1.18
All India	72.20	67.63	44.13	37.18	9.69	230.83	80.45	25.14	12.63	8.60	1.63	128.44	152.65	92.77	56.75	45.79	11.31	359.27

Note: IL - Illiterate, PB - Primary and Below Primary, M - Middle, S+H - Secondary & Higher Secondary, G+ - Graduate and above

Source: ibid

Table 2: Projected Urban UPSS Labour Force by Educational Status, Sector and Sex in 2007 (in million)

State/UT	Urban Male						Urban Female						Urban Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	1.29	1.49	1.12	1.81	1.18	6.90	1.24	0.49	0.18	0.29	0.25	2.46	2.54	1.98	1.31	2.10	1.43	9.36
Assam	0.10	0.24	0.29	0.39	0.30	1.33	0.04	0.05	0.03	0.05	0.05	0.22	0.14	0.29	0.32	0.44	0.35	1.55
Bihar	0.45	0.46	0.34	0.66	0.69	2.60	0.26	0.07	0.01	0.03	0.03	0.40	0.72	0.52	0.35	0.68	0.72	2.99
Chhattisgarh	0.17	0.37	0.24	0.43	0.31	1.53	0.20	0.10	0.05	0.04	0.04	0.42	0.37	0.47	0.29	0.46	0.35	1.95
Gujarat	0.50	1.31	1.57	2.57	1.11	7.06	0.52	0.30	0.29	0.36	0.17	1.65	1.02	1.61	1.86	2.93	1.28	8.70
Haryana	0.40	0.61	0.32	0.96	0.37	2.66	0.14	0.05	0.04	0.12	0.12	0.47	0.55	0.66	0.35	1.08	0.49	3.13
Himachal Pradesh	0.04	0.06	0.02	0.10	0.04	0.25	0.03	0.02	0.00	0.02	0.02	0.08	0.07	0.08	0.02	0.12	0.05	0.34
J&K	0.22	0.18	0.21	0.27	0.09	0.96	0.05	0.02	0.03	0.03	0.04	0.17	0.27	0.20	0.23	0.30	0.13	1.13
Jharkhand	0.14	0.24	0.43	0.67	0.45	1.93	0.14	0.07	0.09	0.07	0.06	0.43	0.28	0.31	0.52	0.74	0.51	2.36
Karnataka	0.54	1.31	1.30	2.08	1.07	6.31	0.67	0.34	0.35	0.42	0.28	2.05	1.20	1.65	1.65	2.50	1.35	8.36
Kerala	0.08	0.54	0.86	0.78	0.33	2.60	0.09	0.23	0.27	0.43	0.30	1.31	0.17	0.76	1.13	1.21	0.63	3.91
Maharashtra	1.16	2.62	4.10	4.86	2.54	15.28	0.94	0.90	0.65	0.87	0.85	4.20	2.10	3.52	4.75	5.72	3.39	19.48
Madhya Pradesh	0.68	1.40	0.75	1.48	1.23	5.53	0.54	0.31	0.13	0.17	0.24	1.39	1.22	1.71	0.88	1.65	1.47	6.92
Orissa	0.27	0.42	0.37	0.52	0.38	1.97	0.22	0.10	0.07	0.08	0.09	0.57	0.50	0.53	0.44	0.60	0.47	2.54
Punjab	0.44	0.75	0.44	1.15	0.47	3.25	0.14	0.09	0.03	0.20	0.26	0.71	0.57	0.84	0.47	1.35	0.73	3.96
Rajasthan	0.87	1.14	0.78	0.96	0.66	4.42	0.79	0.17	0.13	0.11	0.14	1.34	1.67	1.31	0.91	1.07	0.80	5.76
Tamil Nadu	0.78	2.67	2.00	3.13	1.87	10.44	1.00	1.27	0.58	0.76	0.55	4.15	1.78	3.94	2.58	3.88	2.41	14.59
Uttar Pradesh	2.55	2.85	1.89	2.60	1.95	11.85	1.13	0.39	0.14	0.18	0.33	2.17	3.68	3.24	2.03	2.79	2.28	14.03
Uttarakhand	0.11	0.15	0.14	0.23	0.16	0.79	0.05	0.01	0.01	0.05	0.04	0.17	0.16	0.17	0.14	0.28	0.20	0.96
West Bengal	0.86	2.16	1.65	1.97	1.51	8.16	0.43	0.51	0.28	0.32	0.38	1.91	1.29	2.67	1.92	2.30	1.89	10.07
Other NE	0.05	0.16	0.19	0.26	0.17	0.83	0.04	0.06	0.07	0.11	0.08	0.35	0.09	0.22	0.26	0.37	0.24	1.18
Other states	0.37	1.15	0.99	1.68	1.47	5.67	0.21	0.13	0.06	0.18	0.34	0.92	0.58	1.28	1.06	1.86	1.81	6.59
All India	12.10	22.29	20.02	29.55	18.36	102.31	8.87	5.67	3.47	4.89	4.64	27.55	20.97	27.96	23.49	34.44	23.01	129.86

Source: ibid

Table 3: Projected UPSS Labour Force by Educational Status, Sector and Sex in 2007 (in million)

State/UT	Male						Female						Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	9.34	5.94	3.79	4.42	1.82	25.30	11.48	2.87	1.05	1.01	0.34	16.76	20.83	8.80	4.84	5.43	2.16	42.07
Assam	1.34	3.36	1.95	1.36	0.48	8.48	0.67	1.19	0.57	0.28	0.08	2.80	2.01	4.55	2.52	1.64	0.56	11.28
Bihar	8.83	6.18	3.49	4.60	1.56	24.66	5.47	0.77	0.26	0.23	0.05	6.79	14.30	6.95	3.75	4.83	1.61	31.45
Chhattisgarh	1.61	2.32	1.10	0.99	0.52	6.54	2.82	1.17	0.31	0.12	0.07	4.49	4.43	3.49	1.41	1.11	0.59	11.03
Gujarat	3.03	4.45	4.22	4.37	1.47	17.55	4.67	1.69	1.10	0.89	0.24	8.59	7.71	6.14	5.31	5.26	1.71	26.13
Haryana	1.52	1.92	0.91	2.20	0.68	7.23	1.62	0.57	0.23	0.41	0.16	2.99	3.14	2.50	1.14	2.61	0.83	10.22
Himachal Pradesh	0.26	0.67	0.27	0.64	0.16	2.00	0.51	0.47	0.17	0.34	0.09	1.58	0.78	1.14	0.44	0.98	0.24	3.58
J&K	1.03	0.65	0.77	0.74	0.19	3.39	0.75	0.27	0.23	0.17	0.06	1.47	1.78	0.92	1.00	0.91	0.25	4.86
Jharkhand	2.47	2.20	1.50	1.42	0.64	8.23	2.78	0.54	0.29	0.15	0.07	3.82	5.25	2.74	1.79	1.57	0.71	12.06
Karnataka	4.69	4.46	3.52	3.62	1.41	17.70	5.72	1.88	1.33	0.88	0.37	10.19	10.41	6.34	4.85	4.51	1.78	27.89
Kerala	0.44	2.45	3.65	2.75	0.68	9.98	0.49	1.20	1.41	1.64	0.65	5.39	0.93	3.65	5.07	4.39	1.33	15.37
Maharashtra	4.77	6.83	8.60	8.98	3.47	32.66	7.44	3.89	3.14	2.10	1.01	17.59	12.21	10.72	11.75	11.09	4.49	50.24
Madhya Pradesh	5.65	6.23	2.81	2.88	1.68	19.26	7.43	1.73	0.44	0.32	0.28	10.21	13.08	7.96	3.26	3.20	1.96	29.47
Orissa	3.44	3.64	2.53	1.59	0.88	12.07	3.93	1.21	0.73	0.31	0.19	6.37	7.37	4.85	3.26	1.90	1.06	18.44
Punjab	1.96	2.12	1.14	2.59	0.64	8.45	1.26	0.74	0.30	0.74	0.31	3.35	3.22	2.86	1.44	3.33	0.95	11.79
Rajasthan	5.92	4.91	2.89	2.58	1.17	17.47	8.41	1.33	0.54	0.31	0.17	10.76	14.33	6.24	3.43	2.89	1.34	28.24
Tamil Nadu	3.26	6.31	3.90	4.63	2.26	20.36	4.85	3.38	1.37	1.38	0.67	11.66	8.11	9.70	5.27	6.02	2.93	32.02
Uttar Pradesh	16.81	12.12	9.83	9.00	3.98	51.74	13.96	2.40	1.22	0.80	0.45	18.84	30.77	14.52	11.06	9.80	4.44	70.59
Uttarakhand	0.54	0.53	0.65	0.66	0.29	2.67	0.78	0.34	0.22	0.25	0.08	1.67	1.31	0.87	0.87	0.91	0.37	4.33
West Bengal	6.34	9.90	4.56	3.98	2.24	27.02	3.43	2.22	0.70	0.61	0.45	7.40	9.77	12.12	5.26	4.59	2.69	34.42
Other NE	0.54	1.35	0.90	0.71	0.32	3.82	0.52	0.75	0.38	0.29	0.12	2.06	1.06	2.11	1.27	1.00	0.44	5.88
Other states	0.49	1.36	1.18	2.00	1.54	6.56	0.32	0.19	0.10	0.24	0.36	1.21	0.81	1.55	1.27	2.24	1.90	7.77
All India	84.29	89.91	64.14	66.74	28.05	333.14	89.32	30.81	16.10	13.49	6.27	155.99	173.62	120.72	80.24	80.23	34.32	489.13

Source: ibid

Table 4: Projected Rural UPSS Labour Force by Educational Status, Sector and Sex in 2012 (in million)

State/UT	Rural Male						Rural Female						Rural Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	7.83	4.57	3.22	3.26	0.82	19.70	10.32	2.73	1.09	0.95	0.12	15.21	18.15	7.29	4.31	4.21	0.95	34.91
Assam	1.04	3.60	2.00	1.15	0.20	7.99	0.37	1.58	0.79	0.30	0.04	3.07	1.40	5.18	2.79	1.46	0.23	11.05
Bihar	8.03	6.88	3.90	5.08	1.00	24.89	5.03	0.87	0.28	0.26	0.02	6.47	13.05	7.76	4.18	5.34	1.03	31.36
Chhattisgarh	1.11	2.25	1.15	0.67	0.27	5.45	2.50	1.32	0.35	0.11	0.05	4.32	3.61	3.57	1.51	0.77	0.32	9.77
Gujarat	2.32	3.18	3.40	2.10	0.41	11.42	4.22	1.53	1.03	0.67	0.09	7.54	6.55	4.71	4.43	2.77	0.50	18.96
Haryana	1.02	1.43	0.70	1.48	0.42	5.03	1.57	0.65	0.25	0.40	0.07	2.95	2.59	2.08	0.95	1.88	0.49	7.99
Himachal Pradesh	0.14	0.68	0.28	0.64	0.16	1.89	0.42	0.52	0.19	0.41	0.10	1.63	0.55	1.19	0.47	1.05	0.25	3.52
J&K	0.83	0.49	0.63	0.53	0.14	2.61	0.64	0.27	0.24	0.18	0.03	1.36	1.47	0.75	0.87	0.71	0.16	3.96
Jharkhand	2.05	2.64	1.34	0.92	0.23	7.18	2.71	0.62	0.28	0.11	0.02	3.73	4.76	3.26	1.61	1.04	0.24	10.91
Karnataka	3.93	3.38	2.68	1.77	0.39	12.15	4.97	1.76	1.26	0.60	0.11	8.71	8.90	5.13	3.94	2.38	0.50	20.85
Kerala	0.35	1.70	3.03	2.32	0.40	7.79	0.36	0.77	1.25	1.33	0.40	4.11	0.71	2.47	4.28	3.64	0.80	11.90
Maharashtra	3.02	3.98	5.10	5.20	1.22	18.53	6.14	3.18	2.93	1.57	0.21	14.03	9.17	7.17	8.02	6.77	1.44	32.57
Madhya Pradesh	4.63	5.57	2.72	1.68	0.62	15.22	7.06	1.68	0.40	0.22	0.06	9.42	11.70	7.25	3.12	1.90	0.68	24.64
Orissa	2.78	3.37	2.58	1.39	0.67	10.80	3.61	1.41	0.92	0.32	0.14	6.39	6.39	4.78	3.50	1.71	0.81	17.18
Punjab	1.33	1.50	0.75	1.69	0.19	5.46	1.03	0.75	0.31	0.65	0.06	2.80	2.36	2.25	1.06	2.34	0.25	8.26
Rajasthan	4.88	4.37	2.63	2.14	0.68	14.71	8.03	1.41	0.57	0.29	0.04	10.34	12.91	5.78	3.20	2.44	0.72	25.05
Tamil Nadu	2.28	3.34	1.86	1.43	0.38	9.30	3.71	2.00	0.73	0.57	0.12	7.13	5.99	5.34	2.59	2.00	0.50	16.43
Uttar Pradesh	13.89	10.43	9.76	7.77	2.72	44.57	13.91	2.51	1.53	0.89	0.19	19.03	27.80	12.94	11.29	8.65	2.91	63.59
Uttarakhand	0.42	0.31	0.66	0.57	0.13	2.08	0.67	0.39	0.27	0.27	0.05	1.65	1.09	0.69	0.93	0.84	0.18	3.73
West Bengal	5.62	8.62	3.27	2.44	0.86	20.81	2.83	1.99	0.50	0.35	0.09	5.77	8.45	10.61	3.77	2.80	0.95	26.58
Other NE	0.43	1.38	0.89	0.56	0.19	3.44	0.36	0.92	0.45	0.26	0.06	2.06	0.79	2.30	1.33	0.82	0.25	5.50
Other states	0.10	0.21	0.22	0.38	0.08	0.99	0.10	0.07	0.04	0.08	0.03	0.33	0.20	0.28	0.26	0.46	0.11	1.33
All India	68.04	73.86	52.76	45.16	12.19	252.00	80.57	28.93	15.66	10.80	2.09	138.04	148.60	102.79	68.42	55.96	14.28	390.04

Source: ibid

Table 5: Projected Urban UPSS Labour Force by Educational Status, Sector and Sex in 2012 (in million)

State/UT	Urban Male						Urban Female						Urban Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	1.22	1.47	1.22	2.03	1.43	7.38	1.31	0.53	0.23	0.39	0.31	2.77	2.54	2.00	1.45	2.42	1.75	10.15
Assam	0.11	0.26	0.33	0.47	0.39	1.56	0.05	0.05	0.04	0.06	0.07	0.28	0.16	0.31	0.37	0.53	0.47	1.84
Bihar	0.41	0.49	0.36	0.78	0.88	2.93	0.30	0.07	0.01	0.04	0.04	0.45	0.71	0.55	0.36	0.82	0.92	3.37
Chhattisgarh	0.20	0.39	0.31	0.51	0.41	1.81	0.21	0.13	0.08	0.04	0.05	0.50	0.40	0.52	0.38	0.55	0.45	2.31
Gujarat	0.38	1.11	1.92	3.31	1.35	8.07	0.46	0.30	0.39	0.46	0.22	1.83	0.85	1.41	2.31	3.76	1.57	9.90
Haryana	0.39	0.69	0.33	1.27	0.48	3.16	0.15	0.06	0.04	0.16	0.16	0.57	0.53	0.75	0.37	1.43	0.64	3.72
Himachal Pradesh	0.05	0.08	0.02	0.11	0.04	0.30	0.03	0.02	0.01	0.02	0.02	0.10	0.08	0.10	0.02	0.13	0.06	0.40
J&K	0.31	0.22	0.25	0.26	0.07	1.11	0.04	0.02	0.04	0.04	0.05	0.19	0.35	0.24	0.28	0.31	0.12	1.30
Jharkhand	0.10	0.19	0.47	0.82	0.58	2.15	0.12	0.08	0.11	0.09	0.07	0.48	0.22	0.27	0.58	0.91	0.65	2.63
Karnataka	0.41	1.50	1.48	2.40	1.30	7.09	0.61	0.36	0.44	0.48	0.35	2.24	1.02	1.86	1.92	2.88	1.65	9.33
Kerala	0.09	0.44	0.91	0.88	0.37	2.69	0.08	0.18	0.27	0.46	0.36	1.34	0.17	0.62	1.18	1.34	0.73	4.04
Maharashtra	1.07	2.63	4.88	5.77	3.07	17.41	0.78	1.13	0.81	1.11	1.12	4.96	1.86	3.76	5.69	6.88	4.19	22.38
Madhya Pradesh	0.61	1.46	0.90	1.78	1.66	6.41	0.52	0.40	0.19	0.22	0.30	1.63	1.13	1.86	1.09	2.00	1.96	8.04
Orissa	0.28	0.45	0.39	0.62	0.47	2.21	0.22	0.15	0.11	0.12	0.13	0.73	0.50	0.60	0.50	0.74	0.60	2.93
Punjab	0.42	0.87	0.48	1.42	0.59	3.78	0.12	0.10	0.02	0.24	0.34	0.83	0.54	0.97	0.50	1.66	0.94	4.61
Rajasthan	0.95	1.32	0.90	1.12	0.77	5.06	0.91	0.19	0.17	0.13	0.17	1.56	1.85	1.51	1.08	1.25	0.94	6.62
Tamil Nadu	0.67	2.65	2.28	3.81	2.52	11.93	0.88	1.51	0.73	0.96	0.75	4.83	1.55	4.16	3.01	4.77	3.27	16.76
Uttar Pradesh	2.60	3.31	2.18	3.12	2.36	13.57	1.21	0.45	0.18	0.22	0.46	2.51	3.80	3.76	2.37	3.34	2.82	16.09
Uttarakhand	0.15	0.18	0.17	0.26	0.16	0.91	0.05	0.02	0.01	0.07	0.05	0.20	0.20	0.19	0.18	0.33	0.21	1.11
West Bengal	0.80	2.16	1.82	2.19	1.71	8.67	0.38	0.54	0.34	0.38	0.44	2.07	1.17	2.69	2.16	2.57	2.14	10.74
Other NE	0.05	0.17	0.21	0.31	0.21	0.94	0.03	0.06	0.08	0.14	0.11	0.41	0.08	0.23	0.29	0.45	0.31	1.36
Other states	0.19	1.40	1.35	2.16	1.85	6.96	0.23	0.16	0.08	0.20	0.39	1.07	0.42	1.56	1.43	2.37	2.24	8.02
All India	11.45	23.42	23.18	35.40	22.68	116.12	8.70	6.50	4.36	6.04	5.96	31.55	20.15	29.92	27.53	41.44	28.63	147.67

Source: ibid

Table 6: Projected UPSS Labour Force by Educational Status, Sector and Sex in 2012 (in million)

State/UT	Male						Female						Total		
	PB			S+H			PB			S+H			Total		
	IL	M	G+	M	G+	Total	IL	M	G+	M	G+	Total	IL	M	G+
Andhra Pradesh	9.06	6.04	4.44	5.29	2.26	27.09	11.63	3.26	1.31	1.34	0.43	17.98	20.69	9.29	5.76
Assam	1.15	3.86	2.33	1.62	0.59	9.55	0.42	1.63	0.83	0.36	0.11	3.35	1.57	5.49	3.16
Bihar	8.44	7.37	4.25	5.87	1.89	27.82	5.32	0.94	0.29	0.29	0.06	6.91	13.77	8.31	4.54
Chhattisgarh	1.30	2.64	1.46	1.18	0.68	7.26	2.71	1.45	0.43	0.14	0.09	4.82	4.01	4.09	1.89
Gujarat	2.71	4.30	5.33	5.41	1.76	19.50	4.69	1.83	1.41	1.12	0.32	9.37	7.39	6.12	6.74
Haryana	1.41	2.12	1.02	2.75	0.89	8.19	1.72	0.71	0.30	0.56	0.23	3.52	3.12	2.83	1.32
Himachal Pradesh	0.19	0.75	0.29	0.75	0.20	2.18	0.45	0.54	0.20	0.43	0.12	1.73	0.64	1.29	0.49
J&K	1.14	0.71	0.87	0.79	0.21	3.72	0.68	0.29	0.28	0.22	0.07	1.54	1.82	0.99	1.15
Jharkhand	2.15	2.82	1.81	1.74	0.81	9.33	2.84	0.70	0.39	0.21	0.09	4.21	4.99	3.52	2.20
Karnataka	4.34	4.88	4.16	4.17	1.69	19.24	5.58	2.12	1.70	1.09	0.46	10.94	9.92	6.99	5.86
Kerala	0.44	2.14	3.94	3.20	0.77	10.48	0.43	0.96	1.51	1.79	0.77	5.46	0.88	3.10	5.45
Maharashtra	4.10	6.61	9.98	10.97	4.29	35.95	6.93	4.31	3.74	2.68	1.34	19.00	11.02	10.93	13.72
Madhya Pradesh	5.25	7.03	3.62	3.46	2.28	21.63	7.58	2.08	0.59	0.44	0.36	11.04	12.83	9.11	4.21
Orissa	3.06	3.82	2.98	2.01	1.14	13.00	3.83	1.56	1.02	0.43	0.26	7.11	6.89	5.38	4.00
Punjab	1.74	2.37	1.23	3.10	0.79	9.24	1.15	0.85	0.33	0.89	0.40	3.63	2.90	3.22	1.56
Rajasthan	5.82	5.69	3.54	3.26	1.45	19.77	8.94	1.59	0.74	0.43	0.20	11.90	14.76	7.29	4.28
Tamil Nadu	2.95	5.99	4.14	5.24	2.90	21.23	4.58	3.51	1.47	1.53	0.87	11.96	7.54	9.51	5.61
Uttar Pradesh	16.49	13.74	11.95	10.89	5.08	58.14	15.12	2.96	1.71	1.11	0.64	21.54	31.61	16.70	13.66
Uttarakhand	0.57	0.48	0.82	0.83	0.29	2.99	0.72	0.41	0.28	0.34	0.10	1.85	1.29	0.89	1.10
West Bengal	6.42	10.77	5.09	4.63	2.56	29.48	3.21	2.53	0.84	0.73	0.52	7.84	9.63	13.30	5.94
Other NE	0.48	1.54	1.10	0.87	0.40	4.39	0.39	0.98	0.52	0.40	0.17	2.47	0.87	2.53	1.62
Other states	0.29	1.61	1.58	2.54	1.93	7.95	0.34	0.24	0.12	0.29	0.42	1.40	0.63	1.85	1.69
All India	79.49	97.28	75.93	80.55	34.87	368.12	89.26	35.43	20.02	16.84	8.04	169.59	168.75	132.71	95.95

Source: ibid

Table 7: Projected Rural UPSS Labour Force by Educational Status, Sector and Sex in 2017 (in million)

State/UT	Rural Male						Rural Female						Rural Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	7.54	4.64	3.77	3.87	1.03	20.86	10.36	3.05	1.28	1.13	0.16	15.99	17.90	7.69	5.06	5.01	1.19	36.85
Assam	0.80	4.10	2.32	1.31	0.23	8.76	0.00	2.07	1.08	0.38	0.04	3.56	0.80	6.16	3.40	1.69	0.27	12.33
Bihar	7.51	8.09	4.72	6.42	1.14	27.88	4.88	1.01	0.27	0.33	0.03	6.52	12.40	9.10	4.99	6.74	1.17	34.39
Chhattisgarh	0.70	2.59	1.48	0.78	0.35	5.90	2.41	1.54	0.44	0.12	0.06	4.58	3.11	4.13	1.92	0.91	0.41	10.47
Gujarat	2.15	3.18	4.13	2.37	0.47	12.30	4.30	1.70	1.24	0.80	0.12	8.17	6.45	4.88	5.38	3.18	0.59	20.48
Haryana	0.97	1.51	0.76	1.69	0.53	5.46	1.71	0.78	0.32	0.51	0.10	3.42	2.68	2.28	1.08	2.20	0.63	8.87
Himachal Pradesh	0.09	0.73	0.29	0.71	0.19	2.01	0.38	0.57	0.22	0.45	0.11	1.73	0.47	1.31	0.50	1.16	0.30	3.74
J&K	0.85	0.52	0.70	0.60	0.18	2.85	0.59	0.30	0.30	0.23	0.03	1.46	1.43	0.82	1.00	0.84	0.21	4.30
Jharkhand	1.86	3.25	1.51	1.18	0.29	8.08	2.81	0.81	0.39	0.17	0.02	4.20	4.67	4.06	1.89	1.35	0.31	12.28
Karnataka	3.58	3.55	3.13	1.98	0.44	12.68	4.84	1.98	1.58	0.76	0.13	9.28	8.42	5.53	4.70	2.74	0.57	21.96
Kerala	0.35	1.48	3.22	2.65	0.44	8.14	0.35	0.63	1.38	1.43	0.46	4.25	0.69	2.12	4.60	4.08	0.89	12.39
Maharashtra	2.43	3.79	5.66	6.24	1.53	19.65	5.97	3.48	3.26	1.81	0.26	14.78	8.41	7.27	8.92	8.05	1.80	34.44
Madhya Pradesh	4.26	6.29	3.43	2.03	0.84	16.85	7.31	1.98	0.51	0.27	0.08	10.15	11.57	8.27	3.94	2.30	0.92	27.00
Orissa	2.34	3.51	2.97	1.71	0.88	11.42	3.47	1.71	1.14	0.40	0.18	6.90	5.81	5.22	4.11	2.11	1.06	18.31
Punjab	1.20	1.61	0.75	1.90	0.22	5.68	0.93	0.85	0.34	0.73	0.06	2.91	2.12	2.46	1.09	2.64	0.28	8.59
Rajasthan	4.66	5.05	3.26	2.74	0.90	16.61	8.58	1.70	0.74	0.39	0.05	11.45	13.24	6.74	3.99	3.13	0.95	28.06
Tamil Nadu	2.21	2.94	1.73	1.26	0.36	8.50	3.68	1.76	0.60	0.44	0.10	6.57	5.90	4.69	2.32	1.70	0.46	15.07
Uttar Pradesh	13.36	11.40	11.71	9.35	3.51	49.32	14.87	3.02	1.94	1.19	0.26	21.28	28.23	14.41	13.66	10.54	3.77	70.60
Uttarakhand	0.39	0.27	0.78	0.69	0.13	2.26	0.64	0.46	0.30	0.33	0.06	1.79	1.03	0.73	1.08	1.02	0.19	4.05
West Bengal	5.72	9.36	3.63	2.87	1.01	22.59	2.62	2.25	0.57	0.42	0.11	5.97	8.34	11.61	4.21	3.29	1.11	28.56
Other NE	0.38	1.51	1.06	0.65	0.24	3.85	0.18	1.19	0.60	0.35	0.08	2.40	0.56	2.70	1.67	1.01	0.32	6.25
Other states	0.09	0.21	0.27	0.42	0.10	1.08	0.08	0.08	0.04	0.10	0.04	0.33	0.17	0.29	0.31	0.51	0.13	1.41
All India	63.44	79.56	61.27	53.45	14.99	272.72	80.96	32.91	18.54	12.74	2.54	147.68	144.40	112.48	79.81	66.19	17.53	420.40

Source: ibid

Table 8: Projected Urban UPSS Labour Force by Educational Status, Sector and Sex in 2017 (in million)

State/UT	Urban Male						Urban Female						Urban Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	1.12	1.42	1.30	2.25	1.69	7.78	1.34	0.53	0.26	0.46	0.34	2.94	2.46	1.95	1.57	2.71	2.04	10.72
Assam	0.13	0.26	0.37	0.53	0.48	1.77	0.05	0.06	0.05	0.06	0.09	0.32	0.18	0.33	0.41	0.60	0.57	2.09
Bihar	0.35	0.53	0.36	0.89	1.06	3.19	0.34	0.07	0.01	0.04	0.05	0.51	0.69	0.60	0.37	0.93	1.11	3.70
Chhattisgarh	0.22	0.41	0.38	0.58	0.49	2.08	0.22	0.17	0.10	0.04	0.06	0.58	0.44	0.58	0.48	0.62	0.55	2.66
Gujarat	0.30	0.96	2.22	3.98	1.52	8.99	0.42	0.31	0.49	0.55	0.27	2.02	0.72	1.26	2.71	4.53	1.79	11.01
Haryana	0.36	0.78	0.37	1.57	0.57	3.65	0.15	0.05	0.05	0.19	0.22	0.67	0.51	0.84	0.42	1.76	0.79	4.32
Himachal Pradesh	0.06	0.09	0.02	0.11	0.05	0.33	0.03	0.02	0.01	0.02	0.02	0.11	0.10	0.12	0.02	0.13	0.07	0.44
J&K	0.39	0.25	0.28	0.25	0.06	1.23	0.04	0.02	0.05	0.05	0.05	0.20	0.43	0.27	0.33	0.30	0.10	1.43
Jharkhand	0.10	0.17	0.50	0.93	0.67	2.37	0.10	0.10	0.14	0.12	0.08	0.54	0.21	0.26	0.64	1.05	0.75	2.91
Karnataka	0.30	1.66	1.63	2.72	1.48	7.79	0.58	0.40	0.52	0.54	0.42	2.47	0.88	2.06	2.15	3.26	1.91	10.26
Kerala	0.10	0.33	0.96	0.98	0.41	2.77	0.08	0.14	0.26	0.46	0.40	1.35	0.18	0.47	1.21	1.44	0.81	4.12
Maharashtra	0.98	2.54	5.64	6.66	3.59	19.40	0.62	1.32	0.94	1.31	1.32	5.51	1.61	3.86	6.58	7.97	4.91	24.92
Madhya Pradesh	0.58	1.46	1.03	2.03	2.11	7.21	0.52	0.45	0.21	0.26	0.36	1.81	1.09	1.92	1.25	2.29	2.47	9.02
Orissa	0.28	0.46	0.40	0.72	0.55	2.40	0.20	0.19	0.13	0.14	0.16	0.83	0.48	0.65	0.53	0.86	0.72	3.23
Punjab	0.37	0.98	0.51	1.69	0.71	4.26	0.13	0.12	0.00	0.26	0.42	0.94	0.50	1.10	0.51	1.95	1.13	5.20
Rajasthan	1.01	1.46	1.00	1.27	0.87	5.61	0.97	0.18	0.21	0.16	0.20	1.71	1.98	1.64	1.21	1.42	1.07	7.32
Tamil Nadu	0.66	2.54	2.52	4.45	3.19	13.36	0.75	1.70	0.87	1.14	0.93	5.39	1.41	4.25	3.39	5.58	4.12	18.75
Uttar Pradesh	2.56	3.75	2.42	3.63	2.76	15.12	1.23	0.48	0.22	0.26	0.56	2.76	3.80	4.23	2.65	3.89	3.32	17.89
Uttarakhand	0.19	0.19	0.20	0.29	0.16	1.03	0.05	0.02	0.01	0.08	0.06	0.22	0.24	0.21	0.21	0.37	0.22	1.25
West Bengal	0.72	2.10	1.96	2.35	1.88	9.01	0.33	0.53	0.38	0.41	0.47	2.12	1.05	2.63	2.34	2.76	2.34	11.13
Other NE	0.04	0.17	0.23	0.36	0.25	1.06	0.04	0.05	0.09	0.17	0.14	0.49	0.08	0.23	0.31	0.54	0.38	1.54
Other states	0.17	1.53	1.63	2.51	2.14	7.98	0.25	0.20	0.10	0.21	0.43	1.19	0.42	1.73	1.73	2.73	2.57	9.17
All India	11.00	24.04	25.93	40.74	26.69	128.40	8.46	7.13	5.09	6.96	7.04	34.69	19.46	31.17	31.02	47.70	33.74	163.09

Source: ibid

Table 9: Projected UPSS Labour Force by Educational Status, Sector and Sex in 2017 (in million)

State/UT	Male					Female					Total							
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	8.66	6.06	5.08	6.12	2.72	28.64	11.70	3.58	1.55	1.60	0.50	18.93	20.37	9.64	6.62	7.72	3.22	47.57
Assam	0.93	4.36	2.69	1.85	0.71	10.53	0.05	2.13	1.12	0.44	0.13	3.88	0.99	6.49	3.81	2.29	0.84	14.42
Bihar	7.86	8.62	5.08	7.31	2.20	31.07	5.22	1.08	0.28	0.37	0.08	7.03	13.09	9.70	5.36	7.68	2.27	38.10
Chhattisgarh	0.92	3.00	1.86	1.36	0.84	7.98	2.63	1.71	0.54	0.17	0.12	5.16	3.55	4.71	2.39	1.52	0.96	13.14
Gujarat	2.45	4.14	6.35	6.36	1.99	21.29	4.72	2.01	1.73	1.35	0.39	10.20	7.17	6.15	8.09	7.71	2.38	31.49
Haryana	1.33	2.29	1.13	3.26	1.10	9.11	1.87	0.83	0.37	0.70	0.32	4.08	3.19	3.12	1.50	3.96	1.42	13.19
Himachal Pradesh	0.15	0.82	0.30	0.83	0.24	2.34	0.41	0.60	0.22	0.47	0.13	1.84	0.56	1.42	0.53	1.30	0.37	4.18
J&K	1.24	0.77	0.98	0.86	0.24	4.08	0.63	0.32	0.35	0.28	0.08	1.65	1.86	1.09	1.33	1.14	0.32	5.73
Jharkhand	1.96	3.41	2.01	2.11	0.96	10.45	2.91	0.91	0.52	0.29	0.10	4.74	4.87	4.32	2.53	2.40	1.06	15.19
Karnataka	3.88	5.21	4.76	4.69	1.92	20.47	5.42	2.38	2.10	1.31	0.55	11.76	9.30	7.59	6.86	6.00	2.48	32.22
Kerala	0.44	1.82	4.18	3.63	0.85	10.92	0.43	0.78	1.64	1.89	0.86	5.59	0.87	2.59	5.82	5.52	1.71	16.51
Maharashtra	3.42	6.32	11.30	12.90	5.12	39.06	6.59	4.80	4.21	3.12	1.58	20.30	10.01	11.13	15.50	16.01	6.70	59.36
Madhya Pradesh	4.84	7.75	4.47	4.06	2.95	24.06	7.82	2.44	0.72	0.54	0.44	11.96	12.66	10.19	5.19	4.60	3.39	36.02
Orissa	2.62	3.96	3.37	2.43	1.43	13.82	3.67	1.90	1.27	0.54	0.34	7.73	6.29	5.86	4.65	2.97	1.78	21.55
Punjab	1.57	2.59	1.26	3.59	0.93	9.94	1.06	0.97	0.34	0.99	0.48	3.84	2.63	3.56	1.60	4.59	1.41	13.78
Rajasthan	5.67	6.51	4.26	4.01	1.78	22.22	9.55	1.88	0.94	0.55	0.24	13.16	15.22	8.38	5.20	4.56	2.02	35.38
Tamil Nadu	2.87	5.48	4.24	5.71	3.55	21.85	4.44	3.46	1.47	1.58	1.03	11.97	7.31	8.94	5.71	7.29	4.58	33.82
Uttar Pradesh	15.92	15.15	14.13	12.98	6.27	64.45	16.11	3.50	2.17	1.45	0.82	24.04	32.03	18.65	16.30	14.43	7.09	88.49
Uttarakhand	0.58	0.47	0.98	0.98	0.29	3.29	0.69	0.48	0.32	0.41	0.11	2.01	1.27	0.94	1.29	1.39	0.40	5.30
West Bengal	6.44	11.46	5.59	5.23	2.88	31.60	2.96	2.78	0.95	0.83	0.57	8.09	9.40	14.24	6.55	6.05	3.46	39.69
Other NE	0.43	1.68	1.29	1.02	0.48	4.90	0.21	1.24	0.69	0.52	0.22	2.89	0.64	2.92	1.98	1.54	0.70	7.79
Other states	0.26	1.74	1.90	2.93	2.23	9.06	0.33	0.27	0.14	0.31	0.47	1.52	0.59	2.01	2.04	3.24	2.70	10.58
All India	74.44	103.60	87.21	94.20	41.68	401.12	89.42	40.04	23.63	19.70	9.58	182.37	163.86	143.64	110.83	113.89	51.26	583.49

Source: ibid

Annex 5.6: State-wise MCWS Labour Force by Educational Status, Sector and Sex as on 1st April of 2007, 2012 and 2017.

Table 1: Projected Rural MCWS Labour Force by Educational Status, Sector and Sex in 2007 (in million)

State/UT	Rural Male						Rural Female						Rural Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	7.74	4.27	2.56	2.51	0.61	17.70	8.68	2.02	0.74	0.61	0.08	12.12	16.42	6.29	3.30	3.12	0.69	29.82
Assam	1.21	3.05	1.62	0.95	0.17	7.00	0.40	0.73	0.35	0.15	0.02	1.64	1.61	3.78	1.96	1.10	0.19	8.64
Bihar	8.14	5.56	3.06	3.84	0.84	21.45	3.55	0.48	0.17	0.14	0.01	4.36	11.69	6.05	3.23	3.97	0.86	25.81
Chhattisgarh	1.39	1.87	0.83	0.54	0.19	4.83	2.48	1.01	0.24	0.08	0.03	3.84	3.86	2.89	1.08	0.62	0.22	8.67
Gujarat	2.48	3.07	2.59	1.76	0.35	10.25	3.46	1.16	0.67	0.44	0.05	5.79	5.95	4.23	3.26	2.20	0.41	16.04
Haryana	1.09	1.29	0.59	1.21	0.30	4.48	1.30	0.46	0.17	0.25	0.04	2.22	2.40	1.75	0.75	1.46	0.33	6.69
Himachal Pradesh	0.21	0.58	0.24	0.51	0.11	1.66	0.41	0.38	0.14	0.27	0.06	1.25	0.62	0.96	0.38	0.78	0.17	2.91
J&K	0.79	0.46	0.55	0.46	0.10	2.36	0.43	0.15	0.12	0.08	0.01	0.80	1.22	0.61	0.67	0.54	0.11	3.16
Jharkhand	2.23	1.89	1.02	0.72	0.18	6.05	1.53	0.27	0.12	0.04	0.01	1.97	3.76	2.16	1.14	0.76	0.19	8.01
Karnataka	3.99	3.02	2.13	1.48	0.33	10.96	4.20	1.28	0.81	0.38	0.07	6.76	8.20	4.31	2.94	1.87	0.40	17.72
Kerala	0.34	1.80	2.63	1.85	0.33	6.94	0.31	0.76	0.89	0.94	0.27	3.17	0.65	2.56	3.51	2.79	0.60	10.11
Maharashtra	3.46	4.04	4.31	3.96	0.89	16.66	4.98	2.28	1.91	0.95	0.12	10.24	8.43	6.32	6.22	4.90	1.02	26.90
Madhya Pradesh	4.79	4.65	1.99	1.35	0.44	13.21	5.00	1.03	0.22	0.11	0.03	6.39	9.78	5.68	2.21	1.46	0.47	19.60
Orissa	2.99	3.03	2.03	1.01	0.47	9.53	2.33	0.70	0.42	0.14	0.06	3.65	5.32	3.73	2.45	1.16	0.53	13.18
Punjab	1.51	1.35	0.69	1.42	0.16	5.13	1.19	0.69	0.29	0.57	0.05	2.79	2.70	2.04	0.97	1.99	0.22	7.92
Rajasthan	4.97	3.71	2.07	1.59	0.50	12.84	6.29	0.95	0.34	0.17	0.02	7.78	11.26	4.66	2.41	1.76	0.52	20.62
Tamil Nadu	2.42	3.56	1.85	1.47	0.38	9.67	3.63	1.99	0.75	0.59	0.12	7.08	6.05	5.55	2.60	2.06	0.50	16.75
Uttar Pradesh	13.68	8.89	7.62	6.14	1.95	38.28	10.34	1.62	0.87	0.50	0.10	13.44	24.02	10.51	8.49	6.64	2.05	51.72
Uttarakhand	0.39	0.35	0.47	0.40	0.12	1.73	0.55	0.24	0.16	0.15	0.03	1.13	0.94	0.59	0.63	0.55	0.15	2.86
West Bengal	5.31	7.50	2.82	1.95	0.70	18.28	2.19	1.25	0.31	0.21	0.05	4.01	7.49	8.75	3.13	2.15	0.75	22.29
Other NE	0.48	1.16	0.69	0.44	0.15	2.91	0.42	0.61	0.27	0.16	0.04	1.50	0.90	1.77	0.96	0.60	0.19	4.41
Other states	0.12	0.21	0.18	0.32	0.06	0.88	0.08	0.04	0.02	0.04	0.02	0.20	0.19	0.25	0.20	0.36	0.08	1.08
All India	69.72	65.32	42.53	35.89	9.34	222.79	63.73	20.11	9.99	6.98	1.30	102.11	133.45	85.43	52.52	42.87	10.64	324.91

Note: IL - Illiterate, PB - Primary and Below Primary, M - Middle, S+H - Secondary & Higher Secondary, G+ - Graduate and above

Source: ibid

Table 2: Projected Urban MCWS Labour Force by Educational Status, Sector and Sex in 2007 (in million)

State/UT	Urban Male						Urban Female						Urban Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	1.27	1.46	1.10	1.77	1.16	6.77	1.24	0.49	0.18	0.29	0.25	2.45	2.51	1.95	1.29	2.07	1.41	9.22
Assam	0.10	0.24	0.29	0.39	0.30	1.31	0.04	0.04	0.03	0.04	0.04	0.19	0.14	0.28	0.32	0.43	0.34	1.50
Bihar	0.45	0.46	0.34	0.66	0.69	2.59	0.22	0.06	0.01	0.02	0.03	0.34	0.68	0.51	0.34	0.68	0.72	2.93
Chhattisgarh	0.17	0.36	0.23	0.41	0.30	1.47	0.17	0.08	0.04	0.03	0.03	0.36	0.34	0.44	0.27	0.44	0.34	1.84
Gujarat	0.49	1.31	1.56	2.55	1.10	7.01	0.47	0.27	0.27	0.33	0.16	1.50	0.97	1.58	1.82	2.88	1.26	8.51
Haryana	0.35	0.53	0.27	0.84	0.32	2.31	0.13	0.05	0.03	0.11	0.10	0.42	0.48	0.58	0.31	0.95	0.43	2.73
Himachal Pradesh	0.04	0.06	0.02	0.09	0.04	0.24	0.02	0.02	0.00	0.02	0.02	0.07	0.06	0.07	0.02	0.11	0.05	0.32
J&K	0.22	0.18	0.20	0.26	0.09	0.95	0.04	0.02	0.03	0.03	0.04	0.16	0.26	0.20	0.23	0.29	0.13	1.11
Jharkhand	0.14	0.23	0.42	0.65	0.44	1.87	0.12	0.06	0.07	0.06	0.05	0.35	0.25	0.29	0.49	0.70	0.48	2.22
Karnataka	0.53	1.29	1.28	2.05	1.05	6.21	0.57	0.29	0.30	0.36	0.24	1.77	1.10	1.58	1.58	2.41	1.30	7.98
Kerala	0.08	0.51	0.81	0.74	0.31	2.43	0.08	0.19	0.23	0.37	0.26	1.13	0.15	0.70	1.04	1.10	0.57	3.56
Maharashtra	1.15	2.59	4.07	4.81	2.52	15.14	0.92	0.88	0.63	0.85	0.84	4.11	2.07	3.47	4.70	5.66	3.35	19.26
Madhya Pradesh	0.67	1.38	0.74	1.46	1.21	5.44	0.45	0.26	0.11	0.14	0.20	1.15	1.12	1.63	0.85	1.60	1.41	6.60
Orissa	0.27	0.42	0.36	0.50	0.37	1.92	0.17	0.08	0.05	0.07	0.07	0.45	0.44	0.50	0.42	0.57	0.44	2.37
Punjab	0.43	0.75	0.44	1.14	0.47	3.24	0.12	0.08	0.02	0.18	0.23	0.63	0.55	0.82	0.47	1.33	0.70	3.87
Rajasthan	0.87	1.13	0.78	0.95	0.66	4.38	0.65	0.14	0.10	0.09	0.12	1.11	1.52	1.27	0.88	1.04	0.77	5.49
Tamil Nadu	0.77	2.63	1.98	3.09	1.84	10.31	0.91	1.15	0.52	0.68	0.49	3.75	1.67	3.78	2.50	3.77	2.33	14.06
Uttar Pradesh	2.52	2.81	1.87	2.57	1.92	11.69	0.95	0.33	0.12	0.15	0.28	1.84	3.47	3.14	1.99	2.72	2.20	13.52
Uttarakhand	0.11	0.15	0.13	0.23	0.16	0.79	0.05	0.01	0.01	0.04	0.04	0.15	0.16	0.17	0.14	0.27	0.20	0.93
West Bengal	0.85	2.13	1.62	1.95	1.49	8.04	0.37	0.44	0.24	0.28	0.33	1.66	1.22	2.57	1.86	2.23	1.82	9.71
Other NE	0.05	0.16	0.19	0.26	0.16	0.82	0.04	0.06	0.06	0.10	0.07	0.33	0.09	0.22	0.25	0.36	0.24	1.15
Other states	0.37	1.15	0.99	1.68	1.47	5.66	0.20	0.12	0.06	0.17	0.33	0.89	0.57	1.27	1.05	1.85	1.80	6.55
All India	11.89	21.91	19.69	29.04	18.08	100.61	7.94	5.12	3.13	4.42	4.20	24.80	19.83	27.03	22.82	33.46	22.27	125.41

Source: ibid

Table 3: Projected MCWS Labour Force by Educational Status, Sector and Sex in 2007 (in million)

State/UT	Male					Female					Total							
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	9.01	5.74	3.66	4.29	1.77	24.47	9.92	2.50	0.92	0.90	0.33	14.57	18.93	8.24	4.58	5.19	2.10	39.04
Assam	1.31	3.28	1.91	1.34	0.47	8.31	0.44	0.77	0.37	0.19	0.06	1.83	1.75	4.05	2.28	1.53	0.53	10.14
Bihar	8.59	6.02	3.40	4.49	1.53	24.04	3.78	0.54	0.18	0.16	0.04	4.70	12.37	6.56	3.58	4.65	1.58	28.73
Chhattisgarh	1.55	2.23	1.06	0.95	0.50	6.30	2.65	1.10	0.29	0.11	0.06	4.21	4.20	3.33	1.35	1.06	0.56	10.51
Gujarat	2.97	4.37	4.15	4.32	1.46	17.26	3.94	1.43	0.94	0.77	0.21	7.29	6.91	5.80	5.08	5.08	1.67	24.55
Haryana	1.44	1.82	0.86	2.05	0.62	6.79	1.43	0.50	0.20	0.36	0.14	2.64	2.87	2.32	1.06	2.41	0.76	9.43
Himachal Pradesh	0.25	0.63	0.26	0.61	0.15	1.90	0.43	0.39	0.14	0.29	0.07	1.32	0.68	1.03	0.40	0.89	0.22	3.22
J&K	1.01	0.64	0.76	0.72	0.19	3.31	0.47	0.17	0.15	0.11	0.05	0.95	1.48	0.81	0.90	0.83	0.24	4.26
Jharkhand	2.37	2.12	1.44	1.37	0.62	7.92	1.64	0.33	0.19	0.10	0.05	2.31	4.01	2.44	1.63	1.47	0.67	10.23
Karnataka	4.52	4.32	3.41	3.53	1.38	17.17	4.78	1.57	1.12	0.75	0.31	8.53	9.30	5.89	4.53	4.28	1.69	25.69
Kerala	0.42	2.30	3.44	2.59	0.64	9.38	0.38	0.95	1.12	1.31	0.53	4.30	0.80	3.26	4.55	3.90	1.17	13.67
Maharashtra	4.61	6.63	8.38	8.77	3.41	31.80	5.89	3.16	2.54	1.79	0.96	14.35	10.50	9.80	10.92	10.56	4.37	46.15
Madhya Pradesh	5.45	6.03	2.72	2.80	1.65	18.65	5.44	1.29	0.34	0.25	0.23	7.54	10.90	7.31	3.06	3.06	1.87	26.20
Orissa	3.25	3.45	2.40	1.52	0.84	11.46	2.50	0.78	0.47	0.21	0.13	4.10	5.76	4.23	2.87	1.73	0.97	15.55
Punjab	1.94	2.10	1.13	2.57	0.63	8.37	1.31	0.77	0.31	0.75	0.28	3.42	3.25	2.87	1.44	3.32	0.92	11.79
Rajasthan	5.83	4.84	2.85	2.55	1.15	17.22	6.94	1.10	0.45	0.26	0.14	8.88	12.78	5.94	3.29	2.80	1.29	26.11
Tamil Nadu	3.19	6.19	3.82	4.56	2.22	19.98	4.54	3.14	1.27	1.27	0.61	10.83	7.72	9.33	5.09	5.83	2.83	30.81
Uttar Pradesh	16.20	11.70	9.49	8.71	3.88	49.97	11.29	1.95	0.99	0.65	0.38	15.27	27.49	13.66	10.48	9.36	4.25	65.24
Uttarakhand	0.50	0.50	0.61	0.63	0.28	2.51	0.59	0.26	0.17	0.19	0.06	1.28	1.10	0.76	0.78	0.82	0.34	3.80
West Bengal	6.16	9.63	4.44	3.89	2.19	26.32	2.56	1.69	0.55	0.49	0.38	5.67	8.72	11.33	4.99	4.38	2.57	31.99
Other NE	0.53	1.32	0.88	0.69	0.31	3.73	0.46	0.67	0.34	0.26	0.11	1.84	0.99	1.98	1.21	0.96	0.42	5.56
Other states	0.49	1.36	1.17	1.99	1.53	6.54	0.28	0.17	0.08	0.22	0.34	1.09	0.77	1.52	1.26	2.21	1.88	7.63
All India	81.61	87.23	62.22	64.93	27.42	323.40	71.67	25.23	13.11	11.41	5.50	126.91	153.27	112.46	75.34	76.33	32.91	450.32

Source: *ibid*

Table 4: Projected Rural MCWS Labour Force by Educational Status, Sector and Sex in 2012 (in million)

State/UT	Rural Male					Rural Female					Rural Total							
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	7.60	4.43	3.12	3.16	0.80	19.10	8.97	2.37	0.94	0.82	0.11	13.21	16.56	6.80	4.07	3.98	0.90	32.31
Assam	1.02	3.52	1.96	1.13	0.19	7.82	0.23	1.01	0.50	0.19	0.02	1.96	1.25	4.53	2.46	1.32	0.21	9.78
Bihar	7.81	6.70	3.79	4.95	0.98	24.23	3.53	0.61	0.20	0.18	0.02	4.55	11.34	7.31	3.99	5.13	0.99	28.77
Chhattisgarh	1.07	2.17	1.11	0.64	0.26	5.26	2.37	1.25	0.33	0.10	0.04	4.09	3.43	3.42	1.45	0.74	0.31	9.35
Gujarat	2.28	3.13	3.34	2.06	0.40	11.22	3.64	1.32	0.88	0.57	0.08	6.49	5.92	4.44	4.23	2.64	0.48	17.71
Haryana	1.00	1.40	0.68	1.45	0.41	4.94	1.48	0.62	0.24	0.38	0.07	2.79	2.48	2.02	0.92	1.83	0.47	7.73
Himachal Pradesh	0.13	0.64	0.26	0.61	0.15	1.78	0.35	0.44	0.16	0.35	0.08	1.38	0.48	1.08	0.42	0.95	0.23	3.17
J&K	0.81	0.47	0.61	0.51	0.13	2.54	0.39	0.17	0.15	0.11	0.02	0.84	1.20	0.64	0.76	0.63	0.15	3.38
Jharkhand	1.96	2.53	1.28	0.88	0.22	6.87	1.64	0.37	0.17	0.07	0.01	2.25	3.60	2.90	1.45	0.95	0.23	9.12
Karnataka	3.80	3.26	2.59	1.71	0.38	11.74	4.26	1.50	1.08	0.52	0.09	7.45	8.05	4.77	3.67	2.23	0.47	19.19
Kerala	0.33	1.61	2.86	2.19	0.37	7.36	0.30	0.64	1.04	1.10	0.34	3.41	0.63	2.25	3.90	3.29	0.71	10.78
Maharashtra	2.92	3.85	4.93	5.03	1.18	17.92	4.92	2.55	2.35	1.26	0.17	11.25	7.85	6.41	7.28	6.29	1.35	29.17
Madhya Pradesh	4.47	5.38	2.62	1.62	0.60	14.70	5.10	1.21	0.29	0.16	0.04	6.79	9.57	6.59	2.92	1.78	0.64	21.49
Orissa	2.60	3.15	2.41	1.30	0.63	10.10	2.24	0.88	0.57	0.20	0.08	3.97	4.85	4.03	2.98	1.50	0.71	14.07
Punjab	1.32	1.48	0.74	1.67	0.19	5.41	1.25	0.91	0.38	0.79	0.07	3.40	2.57	2.39	1.12	2.46	0.26	8.81
Rajasthan	4.82	4.32	2.60	2.12	0.68	14.54	6.71	1.18	0.47	0.25	0.03	8.64	11.54	5.50	3.08	2.36	0.71	23.18
Tamil Nadu	2.23	3.27	1.82	1.40	0.37	9.09	3.70	2.00	0.73	0.57	0.12	7.12	5.93	5.26	2.55	1.97	0.50	16.21
Uttar Pradesh	13.41	10.06	9.42	7.50	2.63	43.01	11.72	2.12	1.29	0.75	0.16	16.02	25.12	12.18	10.71	8.24	2.78	59.04
Uttarakhand	0.38	0.28	0.60	0.52	0.12	1.90	0.51	0.30	0.21	0.21	0.04	1.26	0.89	0.58	0.81	0.73	0.16	3.17
West Bengal	5.46	8.37	3.18	2.37	0.83	20.21	2.24	1.57	0.40	0.28	0.07	4.56	7.70	9.94	3.57	2.65	0.90	24.77
Other NE	0.42	1.34	0.87	0.54	0.19	3.35	0.32	0.81	0.39	0.23	0.06	1.81	0.74	2.15	1.26	0.77	0.24	5.17
Other states	0.10	0.21	0.22	0.37	0.08	0.99	0.08	0.06	0.03	0.07	0.03	0.26	0.18	0.27	0.25	0.44	0.11	1.25
All India	65.94	71.57	51.03	43.74	11.79	244.08	65.95	23.87	12.81	9.15	1.74	113.52	131.89	95.45	63.84	52.89	13.53	357.61

Source: ibid

Table 5: Projected Urban MCWS Labour Force by Educational Status, Sector and Sex in 2012 (in million)

State/UT	Urban Male						Urban Female						Urban Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	1.21	1.45	1.21	2.00	1.41	7.28	1.34	0.54	0.23	0.40	0.32	2.83	2.55	1.99	1.44	2.40	1.73	10.11
Assam	0.11	0.25	0.33	0.46	0.39	1.54	0.04	0.05	0.03	0.05	0.06	0.24	0.16	0.30	0.36	0.51	0.45	1.79
Bihar	0.41	0.49	0.36	0.78	0.88	2.93	0.26	0.06	0.01	0.03	0.03	0.39	0.67	0.55	0.36	0.82	0.92	3.31
Chhattisgarh	0.19	0.37	0.29	0.48	0.39	1.72	0.18	0.12	0.07	0.04	0.04	0.45	0.37	0.49	0.36	0.52	0.43	2.17
Gujarat	0.38	1.11	1.92	3.30	1.35	8.06	0.44	0.28	0.36	0.43	0.21	1.72	0.82	1.39	2.28	3.73	1.56	9.78
Haryana	0.34	0.60	0.29	1.11	0.42	2.76	0.13	0.05	0.04	0.14	0.15	0.52	0.47	0.65	0.33	1.26	0.57	3.28
Himachal Pradesh	0.05	0.07	0.02	0.10	0.04	0.28	0.03	0.02	0.01	0.02	0.02	0.09	0.08	0.09	0.02	0.12	0.06	0.37
J&K	0.30	0.22	0.24	0.26	0.07	1.10	0.04	0.01	0.03	0.04	0.04	0.16	0.34	0.24	0.28	0.30	0.11	1.26
Jharkhand	0.10	0.18	0.46	0.79	0.56	2.08	0.10	0.07	0.09	0.08	0.06	0.40	0.20	0.25	0.55	0.86	0.61	2.47
Karnataka	0.41	1.48	1.47	2.38	1.29	7.02	0.54	0.32	0.39	0.43	0.31	2.00	0.95	1.81	1.86	2.81	1.60	9.02
Kerala	0.09	0.41	0.86	0.83	0.35	2.53	0.07	0.16	0.24	0.42	0.33	1.23	0.16	0.58	1.10	1.25	0.68	3.76
Maharashtra	1.07	2.61	4.85	5.73	3.05	17.31	0.78	1.13	0.81	1.11	1.12	4.97	1.85	3.74	5.66	6.85	4.17	22.27
Madhya Pradesh	0.61	1.45	0.89	1.76	1.64	6.34	0.43	0.33	0.16	0.19	0.25	1.36	1.04	1.78	1.05	1.94	1.89	7.70
Orissa	0.27	0.44	0.38	0.60	0.46	2.15	0.17	0.12	0.08	0.09	0.10	0.56	0.44	0.55	0.47	0.69	0.56	2.71
Punjab	0.41	0.87	0.48	1.41	0.59	3.77	0.11	0.09	0.02	0.22	0.32	0.76	0.53	0.96	0.50	1.63	0.91	4.53
Rajasthan	0.94	1.31	0.90	1.11	0.77	5.03	0.76	0.16	0.15	0.11	0.14	1.31	1.70	1.47	1.04	1.22	0.91	6.35
Tamil Nadu	0.66	2.62	2.26	3.77	2.49	11.81	0.82	1.42	0.69	0.90	0.70	4.54	1.49	4.05	2.95	4.68	3.20	16.36
Uttar Pradesh	2.57	3.28	2.16	3.09	2.34	13.44	1.04	0.38	0.16	0.19	0.39	2.16	3.61	3.66	2.32	3.28	2.73	15.60
Uttarakhand	0.15	0.18	0.16	0.26	0.16	0.91	0.05	0.02	0.01	0.06	0.04	0.17	0.20	0.19	0.17	0.32	0.20	1.08
West Bengal	0.78	2.13	1.80	2.16	1.68	8.55	0.33	0.47	0.29	0.33	0.38	1.79	1.11	2.59	2.09	2.49	2.06	10.34
Other NE	0.05	0.17	0.21	0.31	0.20	0.93	0.03	0.06	0.07	0.13	0.10	0.39	0.08	0.22	0.28	0.44	0.30	1.32
Other states	0.19	1.40	1.35	2.16	1.85	6.94	0.23	0.16	0.08	0.20	0.38	1.04	0.42	1.56	1.43	2.36	2.23	7.99
All India	11.28	23.09	22.87	34.87	22.37	114.49	7.94	6.01	4.02	5.61	5.50	29.08	19.22	29.10	26.89	40.48	27.88	143.57

Source: ibid

Table 6: Projected MCWS Labour Force by Educational Status, Sector and Sex in 2012 (in million)

State/UT	Male						Female						Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	8.80	5.87	4.33	5.16	2.21	26.38	10.31	2.91	1.18	1.22	0.43	16.04	19.11	8.78	5.51	6.38	2.64	42.42
Assam	1.13	3.78	2.28	1.59	0.58	9.36	0.28	1.05	0.54	0.24	0.09	2.20	1.41	4.83	2.82	1.84	0.67	11.56
Bihar	8.23	7.19	4.15	5.73	1.86	27.15	3.79	0.67	0.20	0.21	0.05	4.93	12.02	7.86	4.35	5.94	1.91	32.08
Chhattisgarh	1.25	2.54	1.40	1.13	0.65	6.98	2.55	1.36	0.40	0.13	0.08	4.54	3.81	3.91	1.81	1.26	0.74	11.52
Gujarat	2.66	4.24	5.26	5.36	1.75	19.28	4.07	1.60	1.25	1.00	0.29	8.21	6.74	5.83	6.51	6.37	2.04	27.49
Haryana	1.34	2.00	0.97	2.56	0.83	7.70	1.62	0.67	0.28	0.53	0.22	3.31	2.95	2.67	1.25	3.09	1.04	11.01
Himachal Pradesh	0.18	0.71	0.28	0.71	0.19	2.06	0.38	0.46	0.17	0.37	0.10	1.47	0.56	1.17	0.45	1.07	0.29	3.53
J&K	1.11	0.69	0.85	0.77	0.21	3.64	0.43	0.18	0.18	0.15	0.05	1.00	1.54	0.87	1.04	0.92	0.26	4.63
Jharkhand	2.06	2.70	1.74	1.67	0.77	8.94	1.74	0.44	0.26	0.14	0.07	2.65	3.80	3.14	1.99	1.82	0.84	11.59
Karnataka	4.20	4.75	4.05	4.09	1.67	18.76	4.80	1.82	1.47	0.95	0.41	9.45	9.00	6.57	5.53	5.04	2.07	28.21
Kerala	0.42	2.02	3.72	3.02	0.72	9.90	0.37	0.81	1.28	1.52	0.67	4.64	0.79	2.83	5.00	4.54	1.39	14.54
Maharashtra	3.99	6.47	9.78	10.76	4.23	35.23	5.71	3.68	3.16	2.37	1.29	16.22	9.70	10.15	12.94	13.13	5.53	51.45
Madhya Pradesh	5.08	6.82	3.51	3.38	2.24	21.04	5.53	1.54	0.45	0.34	0.30	8.15	10.61	8.37	3.96	3.72	2.54	29.19
Orissa	2.87	3.59	2.80	1.90	1.09	12.25	2.42	0.99	0.65	0.29	0.18	4.53	5.29	4.58	3.45	2.19	1.27	16.78
Punjab	1.73	2.35	1.23	3.08	0.79	9.18	1.37	1.00	0.39	1.01	0.39	4.16	3.10	3.36	1.62	4.10	1.17	13.35
Rajasthan	5.76	5.64	3.50	3.23	1.44	19.57	7.48	1.33	0.62	0.36	0.17	9.96	13.24	6.97	4.12	3.59	1.61	29.53
Tamil Nadu	2.90	5.89	4.08	5.17	2.87	20.90	4.52	3.42	1.42	1.47	0.83	11.66	7.42	9.31	5.50	6.64	3.69	32.57
Uttar Pradesh	15.98	13.34	11.59	10.58	4.97	56.46	12.75	2.50	1.44	0.94	0.55	18.18	28.73	15.84	13.03	11.52	5.52	74.64
Uttarakhand	0.53	0.46	0.77	0.78	0.28	2.81	0.56	0.31	0.22	0.27	0.08	1.44	1.09	0.77	0.98	1.05	0.36	4.25
West Bengal	6.25	10.49	4.97	4.53	2.52	28.76	2.57	2.04	0.69	0.61	0.45	6.35	8.81	12.54	5.67	5.14	2.96	35.11
Other NE	0.47	1.51	1.07	0.85	0.39	4.29	0.35	0.87	0.47	0.36	0.16	2.20	0.82	2.38	1.54	1.21	0.55	6.49
Other states	0.29	1.61	1.57	2.53	1.93	7.93	0.31	0.22	0.11	0.27	0.41	1.31	0.60	1.82	1.68	2.80	2.33	9.24
All India	77.22	94.66	73.91	78.61	34.17	358.57	73.88	29.89	16.83	14.76	7.24	142.60	151.11	124.55	90.74	93.37	41.41	501.17

Source: ibid

Table 7: Projected Rural MCWS Labour Force by Educational Status, Sector and Sex in 2017 (in million)

State/UT	Rural Male						Rural Female						Rural Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	7.32	4.51	3.66	3.76	1.00	20.25	9.04	2.66	1.12	0.99	0.14	13.95	16.36	7.17	4.78	4.75	1.14	34.20
Assam	0.79	4.03	2.29	1.29	0.22	8.63	0.00	1.32	0.69	0.24	0.03	2.28	0.79	5.36	2.98	1.54	0.25	10.91
Bihar	7.31	7.87	4.59	6.24	1.11	27.11	3.58	0.74	0.20	0.24	0.02	4.78	10.89	8.61	4.79	6.48	1.13	31.89
Chhattisgarh	0.67	2.49	1.42	0.75	0.34	5.68	2.32	1.48	0.42	0.12	0.06	4.40	2.99	3.97	1.84	0.87	0.40	10.07
Gujarat	2.11	3.12	4.05	2.33	0.46	12.06	3.80	1.50	1.10	0.71	0.11	7.22	5.90	4.62	5.15	3.04	0.57	19.28
Haryana	0.95	1.48	0.74	1.66	0.52	5.34	1.71	0.77	0.32	0.50	0.10	3.40	2.65	2.25	1.06	2.16	0.62	8.74
Himachal Pradesh	0.09	0.69	0.27	0.68	0.18	1.91	0.32	0.49	0.18	0.38	0.10	1.47	0.41	1.18	0.46	1.06	0.28	3.38
J&K	0.83	0.51	0.68	0.59	0.18	2.78	0.37	0.19	0.19	0.15	0.02	0.91	1.19	0.69	0.87	0.73	0.20	3.69
Jharkhand	1.77	3.10	1.44	1.13	0.27	7.71	2.72	0.79	0.37	0.17	0.02	4.07	4.49	3.89	1.81	1.29	0.30	11.78
Karnataka	3.46	3.43	3.02	1.91	0.42	12.25	4.23	1.73	1.38	0.67	0.11	8.13	7.69	5.16	4.40	2.58	0.54	20.38
Kerala	0.33	1.40	3.04	2.50	0.41	7.68	0.29	0.52	1.14	1.18	0.38	3.51	0.61	1.92	4.18	3.68	0.79	11.19
Maharashtra	2.36	3.67	5.48	6.04	1.49	19.04	4.91	2.87	2.68	1.49	0.21	12.17	7.27	6.54	8.16	7.53	1.70	31.20
Madhya Pradesh	4.11	6.07	3.32	1.96	0.81	16.28	5.25	1.42	0.36	0.20	0.06	7.29	9.36	7.50	3.68	2.16	0.87	23.57
Orissa	2.21	3.31	2.80	1.61	0.83	10.76	2.14	1.05	0.70	0.25	0.11	4.25	4.34	4.36	3.51	1.86	0.94	15.00
Punjab	1.19	1.60	0.75	1.89	0.22	5.64	1.28	1.18	0.47	1.01	0.08	4.02	2.47	2.77	1.21	2.90	0.30	9.66
Rajasthan	4.61	5.00	3.22	2.71	0.89	16.44	7.19	1.42	0.62	0.33	0.04	9.59	11.80	6.42	3.84	3.04	0.93	26.03
Tamil Nadu	2.18	2.89	1.70	1.24	0.35	8.36	3.92	1.87	0.64	0.47	0.10	7.00	6.10	4.76	2.34	1.71	0.46	15.36
Uttar Pradesh	12.99	11.08	11.39	9.09	3.41	47.97	13.15	2.67	1.72	1.05	0.23	18.81	26.14	13.75	13.11	10.14	3.64	66.78
Uttarakhand	0.36	0.25	0.72	0.64	0.12	2.10	0.63	0.45	0.30	0.32	0.06	1.75	0.99	0.70	1.02	0.96	0.17	3.85
West Bengal	5.56	9.09	3.53	2.79	0.98	21.94	2.19	1.88	0.48	0.35	0.09	4.99	7.75	10.97	4.01	3.14	1.07	26.93
Other NE	0.38	1.47	1.04	0.64	0.23	3.75	0.16	1.05	0.53	0.31	0.07	2.13	0.53	2.52	1.57	0.95	0.30	5.88
Other states	0.09	0.21	0.27	0.42	0.10	1.08	0.08	0.07	0.04	0.09	0.04	0.32	0.17	0.29	0.31	0.51	0.13	1.40
All India	61.65	77.27	59.42	51.88	14.54	264.75	69.26	28.13	15.65	11.21	2.18	126.42	130.91	105.40	75.07	63.08	16.72	391.18

Source: ibid

Table 8: Projected Urban MCWS Labour Force by Educational Status, Sector and Sex in 2017 (in million)

State/UT	Urban Male						Urban Female						Urban Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	1.11	1.40	1.28	2.21	1.66	7.66	1.44	0.57	0.28	0.49	0.37	3.15	2.54	1.96	1.56	2.71	2.03	10.81
Assam	0.13	0.26	0.36	0.53	0.48	1.75	0.05	0.05	0.04	0.05	0.08	0.27	0.17	0.31	0.40	0.58	0.56	2.03
Bihar	0.35	0.53	0.37	0.90	1.06	3.21	0.29	0.06	0.01	0.04	0.04	0.44	0.65	0.59	0.37	0.93	1.11	3.65
Chhattisgarh	0.22	0.39	0.36	0.55	0.47	1.99	0.19	0.15	0.09	0.04	0.05	0.52	0.41	0.54	0.45	0.59	0.52	2.51
Gujarat	0.30	0.95	2.22	3.98	1.52	8.98	0.40	0.29	0.47	0.52	0.25	1.94	0.70	1.25	2.69	4.51	1.77	10.92
Haryana	0.32	0.69	0.33	1.38	0.50	3.21	0.14	0.05	0.04	0.17	0.20	0.61	0.46	0.74	0.37	1.55	0.70	3.82
Himachal Pradesh	0.06	0.09	0.01	0.10	0.05	0.31	0.03	0.02	0.01	0.02	0.02	0.09	0.09	0.11	0.02	0.12	0.07	0.41
J&K	0.39	0.25	0.28	0.25	0.06	1.22	0.03	0.01	0.04	0.04	0.04	0.17	0.42	0.26	0.32	0.29	0.10	1.39
Jharkhand	0.10	0.16	0.48	0.90	0.65	2.28	0.10	0.10	0.13	0.12	0.08	0.54	0.20	0.26	0.62	1.02	0.73	2.82
Karnataka	0.30	1.64	1.62	2.69	1.47	7.71	0.52	0.36	0.47	0.48	0.38	2.20	0.82	2.00	2.08	3.17	1.85	9.92
Kerala	0.09	0.31	0.90	0.92	0.38	2.60	0.08	0.14	0.25	0.45	0.39	1.31	0.17	0.45	1.15	1.37	0.78	3.91
Maharashtra	0.98	2.52	5.60	6.61	3.57	19.28	0.66	1.40	1.00	1.39	1.40	5.83	1.64	3.92	6.60	8.00	4.96	25.12
Madhya Pradesh	0.57	1.45	1.02	2.01	2.09	7.15	0.43	0.38	0.18	0.22	0.30	1.52	1.01	1.83	1.20	2.23	2.39	8.67
Orissa	0.27	0.45	0.39	0.70	0.54	2.35	0.16	0.15	0.10	0.11	0.13	0.64	0.43	0.59	0.49	0.81	0.67	2.99
Punjab	0.37	0.98	0.51	1.68	0.71	4.24	0.12	0.11	0.00	0.24	0.38	0.84	0.49	1.08	0.51	1.92	1.09	5.09
Rajasthan	1.00	1.46	1.00	1.26	0.87	5.59	0.83	0.15	0.18	0.13	0.17	1.46	1.83	1.61	1.18	1.40	1.04	7.05
Tamil Nadu	0.65	2.52	2.49	4.40	3.16	13.23	0.71	1.60	0.82	1.07	0.87	5.07	1.36	4.12	3.31	5.47	4.03	18.29
Uttar Pradesh	2.55	3.73	2.41	3.61	2.74	15.03	1.05	0.41	0.19	0.22	0.48	2.35	3.60	4.14	2.60	3.83	3.22	17.38
Uttarakhand	0.19	0.19	0.19	0.29	0.16	1.02	0.05	0.02	0.01	0.07	0.05	0.20	0.23	0.21	0.21	0.36	0.21	1.22
West Bengal	0.71	2.07	1.93	2.32	1.85	8.88	0.29	0.46	0.33	0.36	0.40	1.84	1.00	2.53	2.26	2.67	2.25	10.72
Other NE	0.04	0.17	0.22	0.36	0.24	1.04	0.03	0.05	0.08	0.16	0.13	0.46	0.08	0.22	0.31	0.52	0.37	1.50
Other states	0.17	1.53	1.63	2.51	2.14	7.98	0.24	0.19	0.10	0.21	0.42	1.16	0.42	1.72	1.72	2.72	2.56	9.14
All India	10.85	23.72	25.62	40.17	26.37	126.74	7.83	6.72	4.81	6.61	6.63	32.60	18.69	30.45	30.43	46.78	33.00	159.35

Source: ibid

Table 9: Projected MCWS Labour Force by Educational Status, Sector and Sex in 2017 (in million)

State/UT	Male						Female						Total					
	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total	IL	PB	M	S+H	G+	Total
Andhra Pradesh	8.43	5.91	4.95	5.97	2.66	27.91	10.48	3.23	1.40	1.49	0.51	17.10	18.90	9.13	6.35	7.46	3.17	45.01
Assam	0.92	4.29	2.65	1.82	0.70	10.38	0.05	1.38	0.73	0.30	0.11	2.56	0.96	5.67	3.38	2.12	0.80	12.94
Bihar	7.66	8.40	4.96	7.14	2.17	30.32	3.87	0.80	0.20	0.28	0.06	5.22	11.53	9.20	5.16	7.41	2.23	35.54
Chhattisgarh	0.89	2.88	1.78	1.30	0.81	7.67	2.51	1.63	0.51	0.16	0.11	4.91	3.40	4.51	2.29	1.46	0.92	12.58
Gujarat	2.41	4.08	6.27	6.31	1.98	21.04	4.20	1.80	1.56	1.23	0.36	9.15	6.60	5.87	7.84	7.54	2.34	30.20
Haryana	1.26	2.17	1.07	3.04	1.02	8.55	1.85	0.82	0.36	0.68	0.30	4.01	3.11	2.99	1.43	3.71	1.32	12.57
Himachal Pradesh	0.14	0.78	0.29	0.78	0.23	2.22	0.35	0.51	0.19	0.40	0.11	1.57	0.49	1.29	0.48	1.18	0.34	3.79
J&K	1.21	0.75	0.96	0.84	0.23	4.00	0.40	0.20	0.23	0.19	0.06	1.08	1.61	0.96	1.19	1.03	0.29	5.07
Jharkhand	1.87	3.26	1.92	2.02	0.92	10.00	2.82	0.88	0.51	0.29	0.10	4.61	4.69	4.15	2.43	2.31	1.02	14.60
Karnataka	3.76	5.07	4.64	4.60	1.89	19.97	4.75	2.09	1.85	1.15	0.49	10.33	8.51	7.16	6.48	5.75	2.39	30.29
Kerala	0.42	1.71	3.94	3.42	0.80	10.28	0.36	0.66	1.39	1.63	0.77	4.82	0.78	2.37	5.33	5.05	1.57	15.10
Maharashtra	3.34	6.19	11.08	12.66	5.05	38.32	5.57	4.26	3.68	2.87	1.61	18.00	8.91	10.45	14.77	15.53	6.66	56.32
Madhya Pradesh	4.69	7.52	4.34	3.97	2.91	23.43	5.68	1.81	0.54	0.42	0.36	8.81	10.37	9.33	4.88	4.39	3.27	32.24
Orissa	2.48	3.75	3.19	2.31	1.37	13.11	2.29	1.20	0.81	0.35	0.24	4.89	4.77	4.95	4.00	2.67	1.61	18.00
Punjab	1.55	2.57	1.26	3.57	0.93	9.88	1.40	1.29	0.47	1.25	0.46	4.86	2.96	3.86	1.72	4.82	1.39	14.74
Rajasthan	5.62	6.45	4.22	3.98	1.76	22.03	8.01	1.57	0.79	0.46	0.21	11.05	13.63	8.02	5.02	4.44	1.97	33.08
Tamil Nadu	2.83	5.41	4.19	5.64	3.51	21.59	4.63	3.47	1.45	1.54	0.98	12.07	7.46	8.88	5.65	7.18	4.49	33.65
Uttar Pradesh	15.54	14.81	13.80	12.70	6.15	63.00	14.20	3.07	1.91	1.27	0.71	21.17	29.74	17.89	15.71	13.97	6.86	84.16
Uttarakhand	0.55	0.45	0.92	0.93	0.28	3.12	0.67	0.47	0.31	0.39	0.11	1.95	1.22	0.91	1.23	1.32	0.38	5.07
West Bengal	6.27	11.16	5.46	5.11	2.83	30.83	2.48	2.34	0.81	0.70	0.49	6.83	8.75	13.50	6.27	5.81	3.32	37.65
Other NE	0.42	1.64	1.26	1.00	0.47	4.80	0.19	1.10	0.62	0.48	0.20	2.59	0.61	2.75	1.88	1.47	0.68	7.39
Other states	0.26	1.74	1.90	2.93	2.23	9.06	0.33	0.27	0.13	0.30	0.46	1.48	0.59	2.01	2.03	3.23	2.69	10.54
All India	72.50	100.99	85.04	92.05	40.91	391.50	77.09	34.86	20.46	17.82	8.80	159.03	149.59	135.85	105.50	109.87	49.72	550.53

Source: ibid